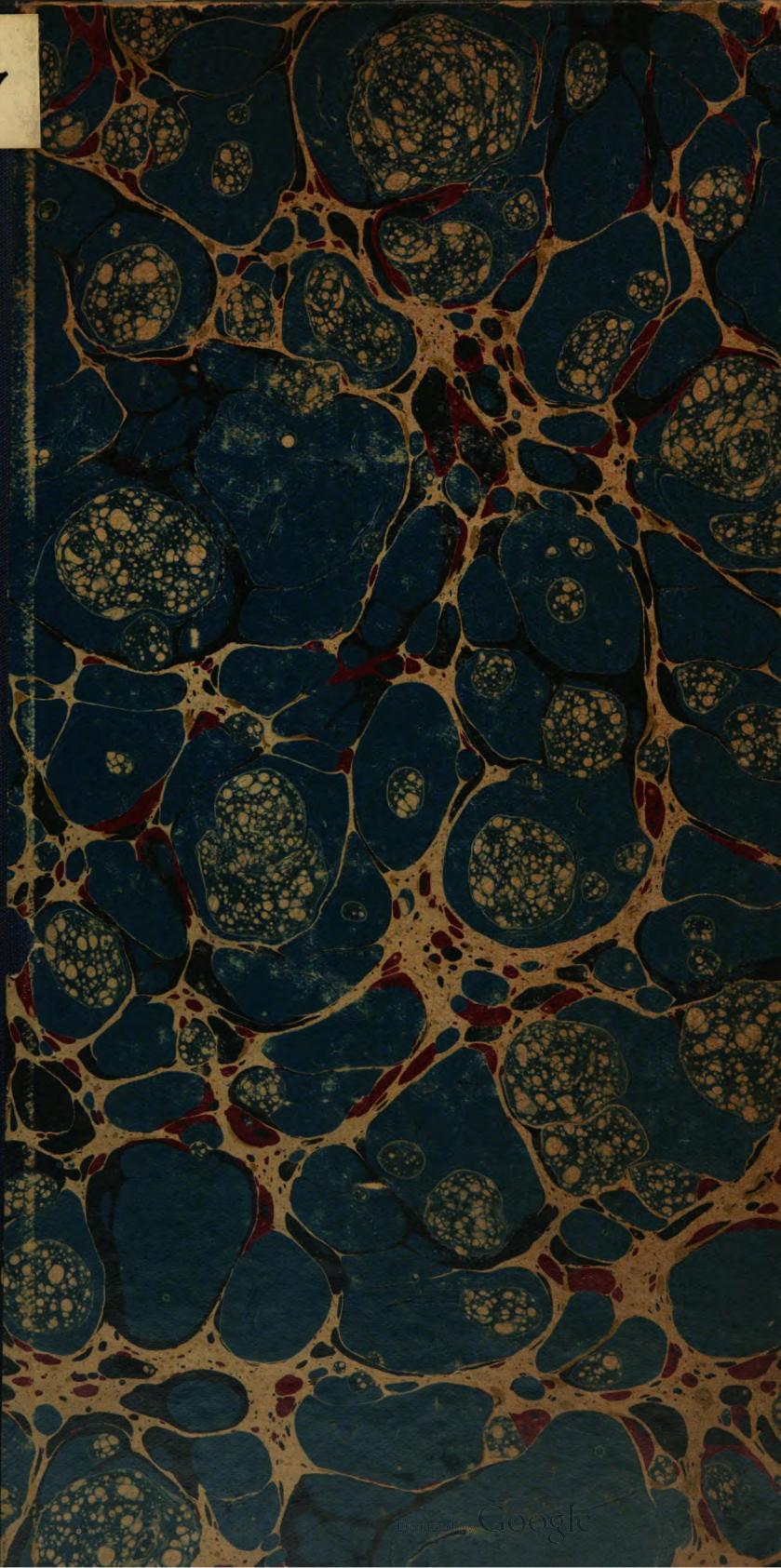
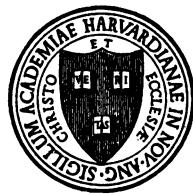


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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES
JOHN M. CARSON, Chief

COTTON TEXTILE TRADE
IN
TURKISH EMPIRE, GREECE, AND ITALY

By

W. A. GRAHAM CLARK

Special Agent of the Department of Commerce and Labor



WASHINGTON
GOVERNMENT PRINTING OFFICE
1908

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U. S. DEPARTMENT OF COMMERCE AND LABOR (1908)

U. S. BUREAU OF MANUFACTURES

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CONTENTS.

	Page.		Page.
Letter of submittal	5	Introduction	7
TURKISH EMPIRE.			
GENERAL TRADE REVIEW:			
European monopoly of the market—			
Commercial awakening—American influence now being felt—Business methods and suggestions	13	ASIA MINOR—Continued.	
Distribution of imports and exports....	13	Smyrna—Continued.	
American trade and influence.....	14	European terms of sale—English monopoly being broken	32
Principal articles of trade.....	14		
Distribution of commerce	15		
Business methods	16		
Cash and credit	17	SYRIA:	
Value of local agents—An American bank needed	17	Importance as a market—	
Importance of cotton textile trade—	18	Area, population, cities, and development—Classes of goods consumed by the people	33
Opportunities for increased sales of American products	18	Railway development	33
Variety and value of imports	19	Textile trade—Kinds of goods worn	34
Sources of supply	20	Beirut—	
Cotton yarn and threads	20	Large cotton goods imports—Steamship and cable facilities	35
Conditions which hamper trade extension	21	T cloth and shirtings	35
Important suggestions	22	Prints and gray sheetings	36
EUROPEAN TURKEY:		Muslins and other goods	36
Valuable market for piece goods—		Terms of sale—Yarn imports	37
Area, population, and commercial importance—Consumption and exports of native products	23	English prices for dyeing	38
Native cotton growing	23	Jerusalem—	
Cotton imports and manufactures	24	American business enterprises—Value of the tourist trade	38
Money, weights, and measures	24	Supplies obtained mainly from Beirut	39
Constantinople—		Classes of piece goods used—Yarn imports	39
An important cotton goods mart controlled by Europeans	25	Mails and freight rates—Retail merchants	40
Freight rates and banking facilities	25	Haifa—	
Large cotton goods trade—British monopoly	26	Present and future importance—Freight rates and routes	40
Italy and Austria strong competitors	26	Damascus—	
Saloniki—		Importance as a trade distributing center	41
An important commercial port—Local and interior trade	27	Population and bazaars	42
Native hand manufacture—Credits	27	The cloth bazaar	43
ASIA MINOR:		Garments of the people	43
Opportunities for development—		Cotton goods trade	44
Area, population, and railroads—A market worthy of close study by American exporters	28	Market requirements and business methods	44
Smyrna—		Chances for American agencies—Yarn imports	45
Growing trade importance—Shipping and banking facilities	28	Damascus manufactures	46
Character and value of exports	29	Description of the striped goods made	46
European imitations of American cotton goods	29	EGYPT:	
Cotton goods imports and freight rates	30	Decline in production of textiles—	
Character of piece goods consumed	30	Manufacturing now limited to one mill and scattered hand looms—Causes of present conditions	48
Credits—Yarn imports and prices	31	Handicaps to cotton manufacturing	48

GREECE.

COMMERCIAL IMPORTANCE:

An attractive market for textiles—

Steady growth in sales of cotton goods—	
Advantages offered American manufacturers	55
Business methods—Emigration helpful to American trade.....	55
Cotton industry—Local mills and their products	56
Changing clothing customs—Fluctuating currency	57
Growth and consumption of cotton.....	57

Page.

COMMERCIAL IMPORTANCE—Continued.

An attractive market for textiles—Con.	
Complaints regarding American cotton.....	58
Trade in cotton yarn and thread.....	58
Cotton piece goods.....	59
Detailed cotton goods imports.....	60
Print goods preferences—Styles of white shirting desired.....	60
Large importations of gray goods.....	61
Drills, flannels, and worsteds.....	62
Greek textile tariff.....	62
Direct steamship lines.....	63

Page.

ITALY.

GROWTH OF MANUFACTURES:

Importance of cotton goods industry—

Decreased imports and increased foreign sales—Location and methods of the mills.....	67
Spinning spindles and power looms.....	68
Industry centered in northern Italy.....	68
System of manufacture and number of mills.....	69
Distribution and classification of establishments.....	70
Extensive use of hand looms.....	70
Cotton-mill development—Lack of raw materials.....	71
New law affecting women and children in mills.....	72
Mill machinery—Imports and domestic production.....	72
Motive power used and capital invested.....	72
Milan the center of the cotton industry.....	73
Italian demand for foreign cotton goods.....	74
Catering to foreign markets.....	74
Agreement governing home sales.....	75
Filing of claims and exceptions allowed.....	75
Conditions of sale, forwarding, and payment.....	76

COTTON MILLS:

Details of operating methods—

Products of a successful mill near Naples—Equipment one of the best in Italy	77
Calico designing and printing.....	78
Wide-awake business methods—Operatives and wages	78
Equipment and output of a mill in Milan Province.....	79
Weekly wages of employees.....	79
A typical modern mill.....	80
Direct motor-driven machinery—Arrangement of mill.....	80
Spinning and weaving processes.....	81
Wages of spinners and weavers.....	81
A Turin fancy weaving mill.....	82
Preparation of the yarn.....	83

COTTON MILLS—Continued.

Details of operating methods—Cont'd.

Yarn printing and beam warping.....	84
Looms and weaving prices.....	84
Combined hand and power loom establishment.....	85
Equipment, wages, and other details.....	86
Other large mills in Italy	86
Financial showing of leading mills.....	87
Ring versus mule spinning costs—	
New mills generally being equipped with ring frames	87
Permanent investment	88
Number and cost per day of operatives	89
General expenses and spinning costs per pound	89

MILL LABOR:

Conditions and wages—

Gradual increase in pay scale and scarcity of operatives—Effects of changing conditions	91
Hours of labor—Women and children employees	91
Lunch hours, payment of wages, and time keeping	92
Basis of mill wages	93
Manner of living of the mill workers	94
Efficiency of the operatives	94
Causes and results of strikes	95

COTTON GOODS EXPORTS:

Steady growth of the industry—

Extent of foreign trade—Competition with the United States in various countries	97
Cost of raw cotton to manufacturers	98
Prices of yarn in Milan	99
Imports and exports of yarns and cloth	99
Details showing value of trade	100
Countries to which exports are made	101
Classes of cottons exported	101
Exports to Turkey—Credit terms and agencies	102
Trade with other countries	103
Aids to Italian foreign business	103
Leading export companies	104
Advantages of Italian manufacturers—	
Freight rates	105

LETTER OF SUBMITTAL.

MILAN, ITALY, January 15, 1908.

SIR: I have the honor to submit herewith reports on the import trade of and industrial conditions in the Mediterranean countries, Italy, Greece, Turkey, and Egypt, with special reference to textiles.

A study of cotton manufacturing in Italy discloses interesting conditions that have some comparative bearing on the American industry, while the facts brought out in connection with the reports on Greece, Turkey, and Egypt show an immense volume of trade, in which the manufacturers of the United States might secure an important share.

It is to be hoped that the information presented will lead to these markets being more thoroughly exploited for the sale of American cotton fabrics and of other products of American manufacture.

Respectfully,

W. A. GRAHAM CLARK,

Special Agent of the Department of Commerce and Labor.

To Hon. OSCAR S. STRAUS,

Secretary of Commerce and Labor.

COTTON TEXTILE TRADE IN TURKISH EMPIRE, GREECE, AND ITALY.

INTRODUCTION.

The following reports by Special Agent Clark covering the cotton industries and trade of Turkey, Greece, Italy, and Egypt are continuations of the volume issued from the Bureau of Manufactures in the early part of 1907, entitled, "Foreign Markets for the Sale of American Cotton Products." While the aim and scope of these additional reports relate to the cotton goods trade of the several countries treated of, Special Agent Clark covers their general trade, as being necessary to a full understanding of the conditions prevailing there, and the best means by which American manufacturers can reach the several markets.

The report covering the cotton goods trade of Turkey in Asia gives a comprehensive elucidation of the trade of a vast and complicated district, containing a large population with peculiar tastes in the matter of cotton textiles—tastes fully catered to by European agents and factors. Those portions of Mr. Clark's report covering cash and credits, business methods, conditions which hamper trade extension, freight rates, and banking facilities, and European imitations of American cloth, are of special interest to American manufacturers.

As a rule the trade of Turkey has been grouped under one head, which is not only confusing but very misleading, as the cotton goods trade of Turkey in Asia is at least double that of Turkey in Europe, not taking into account the cottons received in Turkey in Europe and thence passed on to Asia.

According to Turkish returns, as given by Special Agent Clark, the total imports of cotton goods into Turkey during the year ended March 31, 1906, amounted to \$31,270,003, imported from the following countries: United Kingdom, \$21,662,929; Italy, \$3,146,891; Austria-Hungary, \$2,654,725; Germany, \$1,094,903; France, \$1,025,768; all other countries, \$1,693,697. All kinds of cotton manufactures are embraced in this schedule, although piece goods compose the greater portion.

As the United Kingdom may be said to dominate the cotton goods trade of Turkey, and as British piece goods come nearest to American

piece goods in quality and price of the manufactures of any other country, it is only necessary to give a few details concerning these to enable American factors to reach a very close estimate of their ability to compete in the markets of Turkey with other countries for any large portion of this trade.

The exports of British cotton piece goods to Turkey during the calendar year 1906 amounted to 478,880,500 yards and during 1907 to 401,335,200 yards, valued at \$23,931,595 and \$21,706,968, respectively, a loss of 77,543,300 yards and \$2,224,627, which, according to Mr. Clark, was due to Italian and Austrian competition.

The United Kingdom exported to Turkey during the year 1906 cotton yarns to the value of \$3,147,298, and 1907 \$2,654,282, a decrease of \$493,016. The exports of all other cotton goods (sewing thread, hosiery, etc.) from the United Kingdom to Turkey in 1906 amounted to \$1,335,721, of which nearly one-half went to Turkey in Asia. Thus the total exports of cotton manufactures from the United Kingdom to Turkey in 1906 amounted to \$28,414,614, instead of \$21,662,929, as given in Turkish returns.

The exports of American cotton manufactures to Turkey for the fiscal year 1906 amounted to only \$208,356, the greater portion going to Turkey in Asia.

For the fiscal year 1906 the direct shipments of American cotton textiles to Turkish ports amounted to \$249,453. The largest item was of unbleached or gray goods, of which 1,390,529 yards, valued at \$95,760, went to Turkey in Asia, and 591,884 yards, valued at \$41,843, went to Turkey in Europe. The export of bleached goods from the United States to Turkey in 1907 aggregated 74,358 yards, worth \$6,201, dyed goods, worth \$29,262, and wearing apparel, etc., \$4,387. The foregoing furnishes the basis and entering wedge for what should develop into a substantial trade.

The imports of cotton manufactures into Greece in 1906, as given by Mr. Clark, amounted to \$2,022,896, besides cotton yarns, which were imported to the value of \$261,356. The exports of British piece goods to Greece during the years 1906 and 1907 amounted to \$1,967,258 and \$2,067,123, respectively.

The total value of British cotton manufactures (piece goods, yarns, and all other manufactures) exported to Greece in 1906, the latest year for which full returns are available, amounted to \$2,527,732, or \$243,480 more than such imports into Greece from all countries during that year, according to Greek statistics. This, at least, shows the predominance of British cottons in the Greek trade. Mr. Clark calls attention to the fact that he saw special brands of American piece goods in Greek shops.

An item of special interest in Mr. Clark's report is that relating to four direct steamship lines now plying between Greece and the United States, whereby American products can be delivered in that Kingdom in shorter time and at lower rates than from Liverpool, a fact which should be taken advantage of by American producers generally.

In his report on Italy, Mr. Clark says: "The greatest article of manufacture in Italy is cotton, and the product of the cotton mills forms by far the largest item in the list of manufactures exported."

Very few have given consideration to Italy as a cotton manufacturer, but all who read the report on the development of this great industry in that Kingdom will perceive that Italy is beginning to dispute the world's markets with the older manufacturing countries.

As in nearly all manufacturing countries, Italy is still indebted to foreign countries for some special classes of foreign cotton goods, such as thread, twine, colored or dyed piece goods, made-up goods, cotton oilcloth, etc., of which it imported \$5,357,921 worth in 1906, perhaps relatively the smallest import of any of the manufacturing countries of Europe.

The exports of cotton manufactures of all kinds from Italy in 1906 amounted to \$23,097,156, composed of the following: Yarns, etc., \$4,506,504; colored or dyed piece goods, \$10,713,884; printed piece goods, \$2,675,055; other piece goods, \$2,298,484; total piece goods, \$15,687,423; all other cottons, \$3,103,229. As noted by Mr. Clark, this shows a steady increase in the exports of cotton manufactures for Italy, the amount in 1895 having been only \$4,711,000.

The fact that Italy, after importing all the raw material, the greater portion from the United States, should be able to build up a large and growing trade in Argentina, Turkey, Egypt, etc., should convince American manufacturers, who have the raw materials at their mill doors, that there is no market so guarded or possessed by foreign factors wherein, by comprehensive and steady effort, trade can not be built up.

Mr. Clark's report, not only as it relates to the cotton goods trade but for its valuable information covering the organization and working of Italian mills, the relations existing between employers and employees, as well as the living conditions, wages, and efficiency of the latter, deserve the special consideration of American mill employers and employees, as, in the main, these "efficiencies" in the production of cotton goods are those which must be met and overcome in all American efforts to secure a fair share of the world's trade.

According to a report from Consul-General Iddings, of Cairo, the imports of cotton manufactures into Egypt amounted to \$30,264,245 and \$30,504,175 in 1906 and 1907, respectively. The exports of British piece goods to Egypt during the same years amounted to

\$14,032,746 and \$13,774,225, respectively. The total exports of British cottons of all kinds to Egypt in 1906, the latest year for which full details are available, amounted to \$15,394,099, in a total import into Egypt in that year of \$30,264,245, leaving a balance of nearly 50 per cent to be supplied by Austria, France, Germany, Italy, etc., the share of the United States therein amounting to only \$10,053, our exports thither for that year.

Special Agent Clark calls attention to the fact that an excise tax of 8 per cent is imposed on the production of all cotton mills in Egypt. This will prevent any local manufactures of moment, so that American producers of textile fabrics, in any efforts they may make for securing trade in Egypt, can rely upon having to compete there with foreign factors only, the same competition which they have to meet in all other **markets**.

TURKISH EMPIRE

GENERAL TRADE REVIEW.

EUROPEAN MONOPOLY OF THE MARKET.

COMMERCIAL AWAKENING—AMERICAN INFLUENCE NOW BEING FELT— BUSINESS METHODS AND SUGGESTIONS.

Turkey is a country to which the United States sells few goods. American manufacturers are gradually beginning to realize, however, that this market is worth cultivating, and American sales are increasing. Though a backward country, Turkey is now feeling the impetus of modern progress, and trade in both exports and imports is growing. Concessions for railways, the electric trolley line at Damascus, two automobiles in Constantinople, and one telephone line authorized are signs of commercial and industrial advancement.

The latest Turkish statistics are for the year ended March 13, 1906, and show imports of \$138,010,491 and exports of \$86,558,429, or a total trade of \$224,568,920. In passing through the Turkish customs many articles are said to be undervalued, and the actual trade of the country therefore is probably over \$250,000,000.

Turkey's universal provider is Great Britain, which monopolizes between a quarter and a third of the total trade. Another third is controlled by Austria, France, and Italy, while the remainder is more widely distributed.

DISCREPANCIES IN STATISTICS—COUNTRIES SHOWING GAINS.

Turkish statistics, while they can not be regarded as accurate, are valuable as showing the general trend of the trade. The inaccuracy is greater in the case of the United States than in that of any other nation, and part of the trade, especially export trade, credited to Great Britain, Austria, France, Italy, and Germany is really American trade. This is mainly due to the fact that no American ships appear in Turkish waters, and the customs officers at many places have a habit of crediting exports to the flag that carries them. In regard to imports, there is not such a large discrepancy in this respect, but goods are often credited to the port of transshipment. There are also factors involved that even a careful customs service could not accurately ascertain. It is a fact that American goods are shipped into Turkey from the stock at the head agency in some other country. German goods are often shipped from Antwerp, Rotterdam, Trieste, etc., and in many cases credited to the country whence shipped. In fact, it would be better in this case to lump the figures for Germany, Austria, and Belgium. The figures for the United States, as stated, are the ones that are virtually wrong. Taking the official American figures and considering the amount that goes indirect, the trade of the United States with Turkey is not far from \$15,000,000, of which \$3,000,000 is exports to Turkey and \$12,000,000 imports from Turkey.

While the Turkish statistics are not accurate, they seem nevertheless to show very well the trend of the trade with the continental countries.

DISTRIBUTION OF IMPORTS AND EXPORTS.

The latest figures showing the value of the trade of Turkey with various countries and the percentages showing their relative standing with corresponding percentages in 1901, follow:

Country.	Imports.			Exports.		
	1906.		1901, percentage.	1906.		1901, percentage.
	Value.	Percent- age.		Value.	Percent- age.	
United States	\$1,265,271	0.92	0.26	\$2,165,323	2.50	2.76
United Kingdom.....	48,363,926	35.05	34.88	27,852,357	32.18	38.07
Austria	28,671,029	20.77	17.48	9,404,135	10.88	7.77
France	11,742,884	8.77	11.60	21,167,549	24.45	29.79
Italy	10,763,279	7.76	5.74	4,382,185	5.06	3.34
Germany	5,831,293	4.23	4.11	5,401,875	6.24	5.18
Russia	8,008,700	5.80	8.76	2,612,916	3.01	3.12
Belgium	4,339,040	3.14	2.72	2,146,888	2.47	2.29
Bulgaria	2,055,192	1.48	3.50	3,326,307	3.84	1.65
Roumania	3,499,322	2.53	2.19	1,759,995	2.03	1.36
Holland	2,628,967	1.91	1.24	2,556,591	2.96	1.97
Greece	2,468,054	1.79	.92	2,391,772	2.76	1.96
Egypt	4,075,324	2.95	2.69			
Persia	3,228,502	2.32	3.17	288,132	.33	.10
All others.....	1,069,708	.58	.74	1,102,454	1.29	.64
Total.....	138,010,491	100.00	100.00	86,558,429	100.00	100.00

England's trade, while steadily increasing, has not in the last five years kept pace with the general trade increase of the country, and her proportionate share, owing to intense continental competition, has declined. The nations making the most substantial gains are Italy, Austria, and Germany, and to these might be added Belgium and the United States. The trade of both Russia and France has declined. All other countries are of minor importance, but in general their trade with Turkey has increased.

AMERICAN TRADE AND INFLUENCE.

It is probable that American trade in the last ten years has actually shown the largest proportionate increase, but much of this is indirect—silk to France, tobacco to Germany, etc. Germany, Italy, and Belgium impress one as being the countries most intensely striving for control of commercial affairs in this section. Their merchants use every means to enlarge their foothold, and their representatives are ever striving to gain new concessions, as every new concession means more work for the factories of their respective countries. So far American capitalists have held aloof from Turkey and have not taken any part in the contention for concessions. Our goods have made little impression on the trade in general.

In one respect American influence is beginning to be quietly perceptible in Turkey, and that is through the American schools that have been established. At Beirut, Smyrna, Constantinople, and at other points American schools with American teachers are exercising a powerful influence, and this influence in time will be quite a factor in securing at least a favorable consideration of American manufactured goods.

American export trade to Turkey, especially to Smyrna, has been stimulated by the better steamship facilities and is steadily if not rapidly increasing in volume. This is much more encouraging than the larger increase of exports to the United States, for the United States can always buy, but to sell takes longer preparation and requires more effort. If there were an even balance of trade, the steamship facilities would be greatly increased. While Great Britain sells to Turkey far more than it buys therefrom, the United States buys from Turkey far more than it sells in return. Next to Great Britain and France the largest proportion of Turkish products eventually find their market in the United States. We buy wool from Bagdad, Aleppo, and Damascus; licorice root from Alexandretta; tobacco from Saloniki and Samsoun; carpets from Constantinople; olive oil from Beirut; dates from Bussorah; and figs, raisins, opium, tobacco, and licorice root from Smyrna.

PRINCIPAL ARTICLES OF TRADE.

To get a comprehensive idea of a country's trade it is necessary to know the proportion of the principal articles bought and sold. The Turkish figures for such articles of foreign trade are as follows:

IMPORTS.			
Cotton piece goods-----	\$31, 270, 003	Sole leather-----	\$1, 504, 565
Other textiles-----	17, 387, 241	Wheat-----	1, 417, 214
Cotton yarn and thread-----	8, 032, 827	Skins and hides-----	1, 414, 750
Sugar-----	11, 355, 863	Alcohol-----	1, 221, 947
Flour-----	4, 991, 746	Fezzes and hats-----	1, 209, 459
Rice-----	4, 739, 869	Sheep and goats-----	1, 178, 949
Petroleum-----	4, 563, 231	Millet seed-----	1, 089, 186
Coffee-----	4, 184, 910	Castor oil-----	1, 064, 510
Iron and ironware-----	3, 732, 922	Coal-----	1, 051, 170
Rugs and carpets-----	2, 540, 308	Morocco leather-----	996, 278
Lumber-----	1, 709, 039	Paints and colors-----	905, 300
Medicines and drugs-----	1, 572, 978		

EXPORTS.			
Raisins-----	\$10, 361, 257	Rugs and carpets-----	\$2, 402, 620
Raw silk-----	7, 976, 320	Eggs-----	2, 202, 856
Cocoons-----	4, 866, 366	Olive oil-----	1, 851, 530
Mohair, wool, and fleece-----	6, 223, 956	Wheat-----	1, 647, 916
Figs-----	3, 970, 027	Fruit-----	1, 603, 008
Barley-----	3, 301, 085	Dates-----	1, 523, 578
Skins and hides-----	3, 201, 640	Sesamum seed-----	1, 382, 519
Opium-----	3, 195, 182	Nuts-----	1, 291, 483
Valonia-----	2, 750, 988	Coal-----	952, 756
Orea-----	2, 437, 962	Oats-----	875, 551
Beans and peas-----	2, 547, 698	Oranges, citrons, and lemons-----	854, 734
Cotton-----	2, 255, 332		

Other imports in order of value are corn, bottles and glassware, matches, nails, wall paper, machinery, copper, cigarette paper, raw silk, sesamum-seed oil, tea, earthenware, tools and implements, and rubber overshoes. Other exports in order of value are licorice root, millet seed, coffee, corn, horses and mules, seeds (ordinary), fish, oxen, cows and buffaloes, and olives. The preponderance of the imports of cotton manufactures is very noticeable, and in fact in the case of almost every neutral or nonmanufacturing country cotton goods hold first place in the imports.

DISTRIBUTION OF COMMERCE.

The diagrams given herewith show that Constantinople is the great importing metropolis for Turkey, while Smyrna occupies a similar

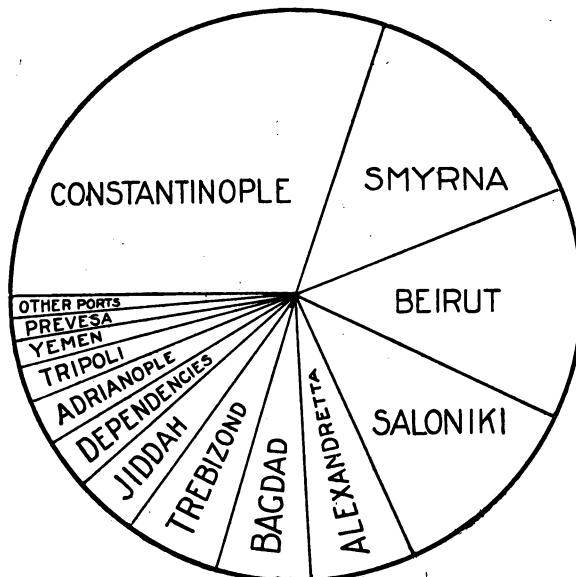


Diagram showing distribution of import trade.

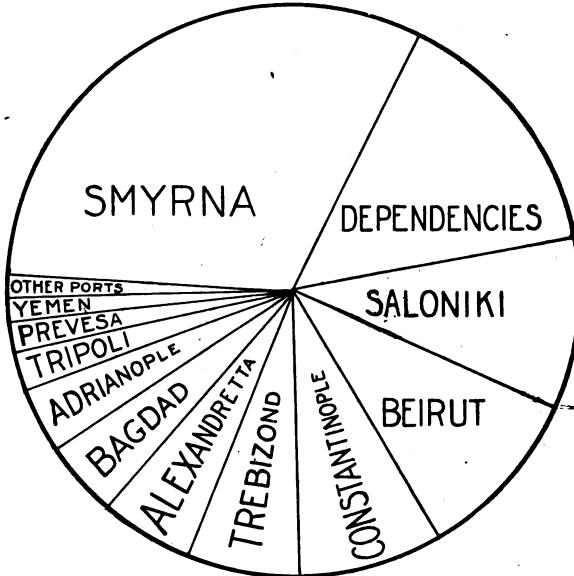


Diagram showing distribution of export trade.

position relative to exports. Other main importing towns are shown to be Smyrna, Beirut, Saloniki, Alexandretta, Bagdad, and Trebizond, while additional main export centers are the dependency ports, and

Saloniki, Beirut, Constantinople, Trebizond, Alexandretta, Bagdad, and Adrianople. Egypt and Bulgaria are both nominally dependencies of Turkey, but the "dependency" ports included refer only to those of Bulgaria.

Smyrna and Constantinople are the two ports having the best steamship connections, and the great bulk of American trade is with Smyrna, which is at present the second city in Turkey. When connected by rail with the interior of the country, Smyrna will, by virtue of its location, eclipse Constantinople in imports as well as exports.

BUSINESS METHODS.

At Constantinople the trade is largely handled by Armenians, at Smyrna by Greeks, and at Beirut by native Syrians. Nearly all of these understand French, while English is unknown except by a comparatively limited number. More of the Smyrna merchants seem to have a knowledge of English than is the case at any other point, but even to them French is more familiar. For Turkey, therefore, catalogues should be in French, and in most cases correspondence, cables, etc., should be in the same language. Prices for Turkey should be quoted in English pounds sterling and pence or in French francs. Though French is spoken and English little understood, the largest portion of the trade is with England, and English quotations are understood direct, while American money is only understood relatively, if at all. Owing to variation in value and name at various points quotations in Turkish money are not advisable.

Quotations from America are sometimes f. o. b. factory, say St. Louis or Cincinnati. Such quotations nine times out of ten are immediately thrown into the wastebasket. Quotations f. o. b. New York are also disliked. Quotations should be f. o. b. Smyrna or other port of destination. Many continental firms get a start here by quoting "franco domicile"—that is, landed at the importer's door—which quotations always receive attention. In such cases the manufacturer usually has an agent to look after the landing, customs, and hauling, but in some cases new exporters get started by quoting franco domicile and then making an allowance to cover these items. Quoting franco domicile or even f. o. b. Smyrna is more troublesome to the exporter than quoting f. o. b. American factory, but it saves trouble to the importer, who is the one to please.

CASH AND CREDIT.

"Cash against documents" is unpopular, and "cash before shipment" is usually laughed at. Three months might be considered the average Turkish credit, but of course this varies greatly. For instance, the bulk of the yarn trade is a cash business, also "Cabots," while the cotton-print trade demands at least three months and the cotton-flannel trade six months. Terms also vary at each import center. As a rule, the English give the shortest and the Germans and Italians the longest time. Whether due to this or other causes, the trade of the latter two countries is increasing at the expense of the former. Instead of "cash against documents" an equally safe and much more satisfactory business can be done by quoting "cash on arrival of goods." Drafts with bill of lading attached should be consigned to the Imperial Ottoman Bank or the Credit Lyonnais, to be collected on arrival of goods. Importers prefer to pay the interest

on draft rather than to pay before goods arrive. I have been informed of several instances where by refusing this simple accommodation American houses have lost the business. Three months' time is demanded in many lines, and where the standing of the importer warrants it should be freely given. Longer than this is rarely, if ever, advisable in Turkey, though some exporters on certain lines give very long time—up to nine months or over. Cash—that is, "cash on arrival of goods"—is usually the more advisable method, but where cash is demanded a discount, say of 3 per cent, should always be made for payment.

VALUE OF LOCAL AGENTS—AN AMERICAN BANK NEEDED.

Business can be built up much quicker through local agents than by long-range work. In choosing local agents, however, much care has to be exercised, for it is usually to the agent's interest in case of claims arising to side with the local merchant rather than with the foreign exporter, for the agent can find another foreign exporter much more easily than another home client. Furthermore, banks in Turkey, as shown in the case of bank losses in some recent Smyrna failures, do not usually know the real financial position of the merchants, and their reports therefore can not always be regarded as correct. There are, however, many reliable native firms which handle large commission accounts. Wherever possible American agents are the best, especially agents who have been established some time and are in touch with local conditions.

The direct shipping problem in connection with American trade seems to be gradually solving itself and rates are decreasing, but direct banking is still needed, and an American bank in Turkey would do much to facilitate and increase American business with that country.

IMPORTANCE OF COTTON TEXTILE TRADE.

OPPORTUNITIES FOR INCREASED SALES OF AMERICAN PRODUCTS.

Turkey is a nonmanufacturing country, and the bulk of the clothing for its people is supplied by more progressive nations. The importance of this trade is shown by the fact that, after India and China, it is the largest consumer of Great Britain's immense cloth production and is also one of her best yarn customers. The market is large and worth cultivating, and the American cotton manufacturer should strive more strenuously for his share of it. At present American trade papers, in commenting on the cotton cloth export trade, mention the takings of China, South America, and the Red Sea ports, but that is all. By a little work Turkey could be added to this list, and there is a much larger field here than there will ever be at Red Sea ports. The present time of prosperity and of great demand for cloth at home is the time that American cloth salesmen should be developing trade in Turkey, so that the mills may run full time should the home demand slacken. The actual work of building up a trade here can only be done by the manufacturers and commission men sending out salesmen, or else forming a connection with local houses and sending them samples and prices. With the recent improvements in the time of steamship connections and lowered transportation rates, the market is as accessible to the United States

as to Europe, and the effect of these on the trade at Smyrna is already marked.

The chief drawback to the extending of our textile trade with Turkey is that smaller orders have to be taken than is the case with China. Local requirements as to making up, marking, and packing have to be catered to, and in most cases the time for making payments has to be extended. Withal it is, after China and South America, the field most worthy the attention of American manufacturers as likely to yield good results. India, of course, is the biggest field, but the English are much more strongly entrenched there than they are in Turkey, and India is not so accessible from the United States.

VARIETY AND VALUE OF IMPORTS.

The following are the latest Turkish figures for the cotton goods imported into Turkey, being for the year ended March 13, 1906:

Description.	Value.	Description.	Value.
Prints and piqués.....	\$10,107,080	Braids.....	\$310,614
Cabots.....	7,046,493	Gingham, imitations of native cloths.....	307,368
White shirtings.....	4,598,244	Calicoes and remnants.....	304,920
Muslins.....	2,036,094	Canvas.....	246,509
Underwear.....	1,274,988	Bathing waist cloths and towels.....	235,590
Covers, bed and table.....	833,349	Waist sashes.....	179,434
Linings.....	753,452	Ribbons.....	134,428
Dimities.....	732,800	Damasks.....	130,098
Laces.....	661,496	Sail cloth.....	96,170
Handkerchiefs.....	626,586	Imitations of native "dima".....	16,000
Drills.....	328,200		
Cotton velvets.....	315,090	Total.....	31,270,008

Great Britain's predominance in this line is shown in the following figures, although Italy, Austria, and Germany are yearly increasing their sales and giving England keener competition:

Country.	Value.	Country.	Value.
Great Britain.....	\$21,662,929	Belgium.....	\$416,694
Italy.....	3,146,891	Holland.....	321,872
Austria.....	2,645,725	All others.....	955,131
Germany.....	1,094,993		
France.....	1,025,768	Total.....	31,270,008

Other textiles of various kinds imported into Turkey are shown by the following figures for the year ended March 13, 1906:

Description.	Value.	Description.	Value.
Woolen dress materials.....	\$3,940,682	Hosiery.....	\$829,625
Cashmeres.....	2,815,208	Bundle covers.....	657,623
Cotton and linen cloths.....	1,954,480	Flannels.....	488,026
Sealing.....	1,696,548	Bazin cloths.....	272,932
Silk goods.....	1,385,800	Shawls.....	171,930
Brocade cloths.....	1,326,752		
Ready-made clothing.....	980,079	Total.....	17,367,241
All cloths and serges.....	897,556		

This gives a total value of textile goods of all kinds imported into Turkey of \$48,637,244. In the last table part of the cashmeres is cotton cashmere and a good part of the flannels is cotton flannel. Cotton goods form a part of several of the other items, but not being kept separate in the import list there is no way of ascertaining the

proportion. Of the total, however, it would seem that the real amount of cotton goods imported into Turkey is over \$35,000,000 a year, and a market of this size is worthy of study.

The bulk of the "prints and piqués" in the cotton-goods list is the ordinary shirting print, 31-32 inches wide. The well-known mill brand "Cabot" in Turkey includes all sheetings, because of this one brand having a wide reputation and the brand, as well as the cloth, being imitated by the Italians and Austrians. In the import list of the Turkish Government the term "Cabot" is used in a still wider sense, including not only gray sheetings but all similar gray goods, especially gray shirtings and T cloths.

SOURCES OF SUPPLY.

The main cotton piece goods imported into Turkey are prints, T cloths, gray shirtings, white shirtings, gray sheetings, muslins (including tanjibs), linings, dimities, and cotton flannels. Of the prints 70 per cent come from Manchester, 15 per cent from Italy, and the remainder from Austria, Germany, France, and Belgium. The T-cloth trade is a monopoly of Great Britain, and the great bulk of the gray shirtings also comes from Great Britain. The gray sheetings are mainly supplied by Italy, with a less amount from Austria and still smaller amounts from Holland and the United States. The muslins imported come mainly from Great Britain, as do practically all the tanjibs. Of the cotton linings of various kinds Great Britain furnishes about 40 per cent, Austria 25 per cent, Italy 15 per cent, and Germany 10 per cent. Two-thirds of the dimities come from Great Britain and 15 per cent from Italy. Cotton flannels and flannelets come mainly from Italy, with lesser quantities from Germany, England, and Austria. Drills come from Great Britain and Italy, and cotton velvets from Austria, Great Britain, and Germany.

Bed and table covers come from Austria, England, and Germany, as do also laces; underwear from Austria, Italy, and Germany; hosiery from Austria, with smaller quantities from Germany and England; handkerchiefs from England and Austria; and ready-made clothing mainly from Austria, with smaller amounts from Germany and England. Broadcloth is also mainly supplied by Austria. Woolen dress materials come from Austria and Italy, with some from Germany, while silk goods come from Italy and Austria, with some from England and Germany. Cashmeres come from Austria and England, and the cotton and linen cloths mainly from England. Bundle covers come from England and Austria, the varicolored waist sashes mainly from Austria, and bathing towels from England. Burlap is supplied by India and England.

The only goods supplied by the United States are sheetings, some drills (mainly dyed), and small amounts of dimity, duck, handkerchiefs, underwear, and hollands.

COTTON YARN AND THREADS.

In cotton yarn imported into Turkey Great Britain does not have as large a monopoly as in cloth; in fact, Italy and Austria are working hard to control the market. In the tables India is included with Great Britain, so that the actual figures for Great Britain

should be reduced by the amount of India's yarn contribution, which averages about \$500,000 a year. The latest Turkish figures for the yarn imports, for the year ended March 13, 1906, are as follows:

Country.	Pounds.	Value.	Country.	Pounds.	Value.
Great Britain.....	19,205,528	\$3,908,245	Belgium	147,337	\$80,092
Italy.....	7,233,881	1,309,443	Russia	27,854	3,651
Austria.....	4,741,483	943,966	United States.....	17,641	3,340
Germany.....	334,177	76,527	All others.....	576,343	115,007
Holland.....	145,898	34,893			
France.....	161,126	32,642	Total.....	32,590,268	6,456,806

The cotton thread used in Turkey is mainly supplied by Great Britain, with smaller quantities from Italy and Austria. The United States does not seem to compete at all. The Turkish figures for cotton thread, reel and spool, imported into Turkey, are as follows:

Country.	Pounds.	Bunches.	_packets.	Value.
Great Britain	1,579,228	1,519,771	365,235	\$830,220
Italy.....	1,093,971	409,357	61,669	278,411
Austria.....	358,721	424,762	232,524	205,124
Holland.....	5,016	617,879	1,850	93,380
Germany.....	149,046	117,461	22,138	68,763
Belgium.....	80,303	271,322	7,180	58,762
France.....	18,516	28,163	8,267	13,847
All others.....	106,127	27,721	2,110	27,516
Total.....	3,391,928	3,416,436	700,973	1,576,028

CONDITIONS WHICH HAMPER TRADE EXTENSION.

Trade in Turkey suffers from several restrictions. In sending telegrams, for instance, every sentence has to be studied by the censor at Constantinople, and no message is allowed in cipher. Even consuls can not use codes except when telegraphing direct to their governments or to their embassy at Constantinople. The cost is doubled by having to be sent first to Constantinople and then forwarded, and of course the normal cost is greatly increased by the prohibition of business codes.

Electricity is regarded with suspicion, and telephones are prohibited throughout the Ottoman Empire. In this particular they are far behind the Chinese, whose leading merchants in the large cities are as familiar with the telephone as the merchant in the United States, and use it almost as freely. At Constantinople I was informed that the Sultan had just authorized one telephone line, and if this is so it will doubtless be followed by others within a short time.

Several Turkish cities have gas works, but Damascus is the first city in the Empire to have electric lights. The electric lights and an electric street-car system were only started in Damascus in the early part of last year, but already Beirut and other towns have obtained authorizations for similar projects.

Owing to delays in mail transmission, and to letters sometimes being opened by the native authorities, the main European powers now have their own post-offices at all the principal ports, but, with the exception of Jerusalem, this system does not extend to the interior cities. There is a money-order department connected with

each foreign post-office, and in remitting small sums to Turkish ports this will be found the cheapest method.

In the present decade there have been many signs of improvement in conditions in Turkey, and, though everything in the East moves slowly, there is bound to be a much more rapid progress in the future. Even with the present methods the trade of the country is steadily increasing and in the export trade the United States has more than kept pace with the increase, but still has only a small portion of the import trade that should go to it.

IMPORTANT SUGGESTIONS.

A parcels-post treaty between Turkey and the United States is needed in order to send samples cheaply. This would save the high charges that are now made on small packages and would be of advantage in opening up many places to American business.

Above all things, American commercial travelers are needed in Turkey. The Italians, the Germans, the Austrians, the Belgians, and the English have many such representatives, and in many lines regular trips are made at stated intervals, so that they not only start but hold their trade. Until Americans apply this system to Turkey they can not hope to get the market from other competitors who have men on the spot.

American exporters could increase their sales in Turkey and do a more satisfactory business by adapting their goods to local requirements; sending over commercial travelers; using French in correspondence and catalogues; using metric system in quotations; quoting in French or English money; quoting c. i. f. Turkish port or "franco domicile;" giving thirty to ninety days' credit to firms of standing; in "cash" quotations always quoting "cash on arrival of goods," and invariably giving some discount for cash; accepting small initial orders; accurate adherence to specifications and care in packing; promptness in shipping, and by carefully studying beforehand what shipping route will be to the interest of customers in regard to time, cost, and liability to damage by transshipments.

In the case of Turkey, the duty is almost uniformly 11 per cent ad valorem; therefore quoting "franco domicile"—that is, "delivery free into customer's store"—should be comparatively easy and is a very popular method.

EUROPEAN TURKEY.

VALUABLE MARKET FOR PIECE GOODS.

AREA, POPULATION, AND COMMERCIAL IMPORTANCE—CONSUMPTION AND EXPORTS OF NATIVE PRODUCTS.

Turkey in Europe has gradually been reduced in size until now it is only 66,500 square miles in area. The population is about 6,000,000, of which only about 700,000 are Turks, the remainder being composed of Albanians (1,500,000), Greeks (1,300,000), Bulgarians, and Wallachians; about 40 per cent only are Mohammedans.

European Turkey includes the vilayets of Constantinople, Adrianople, Saloniki, Monastir, Kossovo, Skutari, and Janina. The main towns are the ports of Constantinople, with about 1,250,000 inhabitants, Saloniki, with about 100,000, and Adrianople with about 80,000.

While Turkey in Europe is smaller, in both area and population, than the peninsula of Asia Minor, it probably consumes more goods, as it is nearer European markets and better opened up with railways. The consumption of cotton piece goods is especially large, for while the Bedouins and fellahs in the country districts of Syria and Asia Minor wear a large amount of native-woven goods, the peasants in European Turkey find it usually cheaper to buy the foreign cloth. There is a large native manufacture of shawls, rugs, and carpets, especially for export from Constantinople.

NATIVE COTTON GROWING.

Cotton is raised in European Turkey and in Asia Minor, but mostly in scattered lots. The section around Adana, Asia Minor, raises the largest quantity, and a railroad built from the port of Mersina to tap this section has stimulated its cultivation. There is also good cotton-raising land in the section back of Smyrna, and the cotton of that section is mostly ginned at Aidin, near Smyrna, before shipment. Syria does not raise cotton in commercial quantities. Practically all the Turkish cotton exported is shipped from either Mersina or Smyrna.

Back in the sixties, when the cultivation of cotton all over the world was stimulated by the scarcity and high price of the American article, there was considerable cotton raised in Asiatic Turkey, but with the drop in value that afterwards ensued the cultivators near the coast found more money in other crops, grapes, olives, figs, etc., so that little cotton was planted. With the present continued high price of cotton its cultivation is once more expanding. There is a good deal of land in Asia Minor that would be suitable for cotton, but a good part is without railroad facilities. The most of the cotton grown is of the local staple, as it has been found that the American staple deteriorates unless fresh seed is imported each year, and this is too expensive. The local cotton is clean, and of fairly good staple. It runs some $\frac{1}{4}$ to $\frac{1}{2}$ inch in length, but is not regular, and is harsher than the American. The cotton-growing season is the same as that in the United States.

COTTON IMPORTS AND MANUFACTURES.

Turkey imports a trifle of cotton—some 1,288,594 pounds, of a value of \$89,000 in 1906—but has few factories, and exports more than it imports. According to the figures of the Turkish Government, its exports of cotton in 1906 amounted to 23,931,332 pounds, say 54,000 bales of 440 pounds each, of a value of \$2,255,332. Austria and France are listed as taking the bulk of this cotton, while Italy, Greece, Germany, and Great Britain took smaller amounts.

The manufacture of cotton goods by hand work is a larger industry in Turkey than the manufacture by machinery, but there are some small cotton mills. There is a small yarn mill at Constantinople, and another at Saloniki, another near Smyrna, and a weave mill being built on the island of Mitylene. The industry tends to concentrate, however, in the main cotton-growing section around Adana, and there are several small mills now located there. There is also a mill near Tarsus, which is not far from the port of Mersina, and the machinery of the Egyptian mill that failed at Cairo is to be transferred and erected at this place. There are no cotton mills in Syria, but Damascus, Homs, and Hamah are all hand-loom centers.

MONEY, WEIGHTS, AND MEASURES.

The Turkish money unit is the piaster, which is worth 4.4 cents; 40 para equal 1 piaster, and 100 piasters equal 1 Turkish pound, which is therefore worth \$4.40 gold.

The metric system was decreed obligatory in Turkey in January, 1892, but it has never been enforced. The cloth measure is the pic of about 27 inches. The pic in some places is called a dra, and in others endazé. In measuring land a lineal measure of 30 inches is used, called an arshin, and a superficial measure of 40 square paces, called a donum. The usual measure of weight is the oke, of 2.83 pounds, and the cantar or kintal of 125 pounds avoirdupois. The almud equals 1.151 imperial gallons, and the kileh equals 0.912 imperial bushel. These weights and measures, however, are varied at various places, so there is no really uniform system, as special weights and measures are used for several products. Among the importers the metric system is largely used, and for most articles quotations should be in figures of that system.

CONSTANTINOPLE.

AN IMPORTANT COTTON GOODS MART CONTROLLED BY EUROPEANS.

Constantinople from the beginning of modern civilization has been considered one of the most important strategic points of Europe. It connects or rather divides the East from the West. If a through railway line is built from London to Calcutta, Constantinople will be on the main line. The railroad that will probably be built in the next few years through Asia Minor and the interior to Bagdad will probably give Smyrna an important lead over Constantinople, for, though both places will be starting points, goods from Europe can be landed at Smyrna for shipment cheaper and quicker than they could be brought to Constantinople.

Constantinople has very good steamship facilities, though there is no direct line between the port and New York, as there is between Smyrna and New York, and all goods have to be transshipped at

least once at English, German, French, Italian, or Austrian ports before reaching Constantinople. The best route at present is by the North German Lloyd, which transfers at Naples to the Deutsche Mittelmeer Levant Line and delivers goods from New York in twenty-two days. This line has sailings from New York every Saturday, and time enough is allowed at Naples for transshipment, so that cargo does not have to lie over for another steamer, as is often the case with the connections of some other lines. England has four lines to Constantinople, Germany three, France three, Austria one, and Italy one. When time is a consideration, German as well as Austrian goods sometimes come by rail.

FREIGHT RATES AND BANKING FACILITIES.

The through rate on cotton piece goods from New York varies from 20 to 24 shillings (\$4.866 to \$5.84) per ton, weight or measurement. From Liverpool it is 20 shillings per ton measurement, and 30 shillings (\$7.30) per ton weight, so that New York has as good freight rate as Liverpool; but Liverpool goods can be counted upon to arrive on time.

The banking facilities at Constantinople are good, as regards European business, though interest rates are very high, but as regards American business an American branch bank is badly needed. Banks in New York, under the present connections, or lack of connections, are not eager for paper on Turkish banks, and sometimes will only handle such paper in large quantities if the export house gives them other paper for which there is a demand, such as that on South Africa, etc. This system is hard on the small exporter and would be obviated if there were a branch here of some American bank. The English have long recognized the great value of bankers and merchants working hand in hand, and their banks are dotted over the face of the earth. The Germans are now doing likewise; they have established a bank at Constantinople, and, it is reported, will establish a chain of German banks throughout the Levant. The Austrians also have a bank there, and the Italians are now following suit, having just established the bank of the Société Commerciale d'Orient.

The great advantage of a country having its own banks in foreign countries is not simply the facility of getting paper handled, though that is very important, but bankers are brought in touch with all the commercial factors of the place, and are able to advise their countrymen intelligently on the degree of credit that can be safely extended, and also to give information as to the needs and requirements of the people. The largest banks in Constantinople are the Imperial Ottoman Bank, and the Credit Lyonnais, of Lyon. The capital of each is given as \$48,665,000, and these are the two banks that handle American business. Other banks are the Deutsche Orient Bank, the Wiener Bank-Verein, the Société Commerciale d'Orient, and the Banque d'Athènes. Also there are local banks, the Banque de Metelin, and the Banque de Salonique.

LARGE COTTON GOODS TRADE—BRITISH MONOPOLY.

The trade of Constantinople in cotton piece goods and in cotton yarn is very large and is supplied by England, and handled largely by Armenian merchants. The bazaars at Constantinople are the largest in the Levant, and consist of streets roofed over, with stalls on either

side. There are several of these bazaars, but the cloth sales are mainly in what is usually called the Big Bazaar.

The main goods imported into Constantinople are prints, gray shirtings, bleached goods, muslins, T cloths, cashmeres, flannelets, velvets, linings, and handkerchiefs. There is also a large import of cotton and linen cloths for various purposes, bed and table covers, ready-made clothing, and underclothing. Cotton manufactures far exceed any other item imported at Constantinople, averaging fully 40 per cent of the total imports. These goods are used not only by the 1,250,000 inhabitants of this place, but some are exported to Asia Minor and the interior, and a larger portion shipped out to the surrounding section as far as the interior of Macedonia and the Balkan States.

England has so much the bulk of the cotton piece goods trade at Constantinople that, in the absence of accurate statistics, any increase or diminution of the trade, unless very important, is hard to determine. From what is said by importers and retail merchants, in regard to cheaper articles from European competitors gradually taking the place of the British-made cloths in certain lines, it would seem that the British cotton manufacturers are hardly holding their own. This is not true of their standard cloths, such as the fine white shirtings, T cloths, and other goods, on which they have a monopoly, but is on the trade in general and especially in regard to printed goods.

ITALY AND AUSTRIA STRONG COMPETITORS.

England's chief competitor is Italy, which is especially strong on cheap prints, cotton flannels, flannelets, and barchent. In fact, on printed napped goods Italy controls the Turkish market. Italy also leads in some other lines, especially in the two diverse lines of sheetings and mercerized satins. The competition of the Italians here is much aided by the nearness of the market, giving them quick delivery, by cheap freights, and by their willingness to cater to the demands of the market, accept small initial orders, and give long time or a good discount for cash.

Nearness also makes Austria a strong competitor in European Turkey, and that country ships large quantities of prints, sheetings, linings, cotton velvets, braid, bed and table covers, lace, handkerchiefs, and underwear, the bulk of the hosiery and ready-made clothing, and other articles, such as broadcloth and woolen material. Austria also sells large quantities of the cloth called "Vichy." The Austrians are doing an increasing business, but not to the extent of the Italians, one reason being that the mills of northern Austria have to pay a much higher charge for transport by land and sea, and owing to an increase in freight rates in the latter part of 1906 the northern Austrian mills have had to loosen their hold on this market and seek an outlet nearer home.

Germany, France, and Belgium compete in smaller degree, Germany shipping mostly prints, underwear, bed covers, lace, cotton velvets and cashmeres, woolen material, hosiery, and ready-made clothing, while France ships prints of various kinds, especially the higher grades, underwear, linings, lace, ribbons, and handkerchiefs.

There are few textiles of either cotton or wool from the United States; in fact, none were to be found in the bazaars.

SALONIKI.

AN IMPORTANT COMMERCIAL PORT—LOCAL AND INTERIOR TRADE.

Saloniki is the import center for the western part of European Turkey, especially Macedonia and Albania, and also ships goods up to the borders of Servia and Roumania. Railroads built within the last few years to Monastir and to the extreme northern border have done much to open the country to European trade. In some cases this has led to goods being ordered direct for interior points, but the bulk of the trade is handled through the importing merchants at Saloniki. European manufacturers have found it better to give the large importers an exclusive agency rather than to try to keep up with numerous smaller importers in the interior. As at Constantinople, there are many different races and nationalities at Saloniki, and their requirements and occupations are diverse. The import trade at this place is largely handled by Spanish Jews, who are a part of the descendants of the Jews that were driven out of Spain by Ferdinand and Isabella, and it is said that among themselves they write Spanish in Jewish characters. There are also numerous Greeks in business here, but for the most part their firms are small. There are also several agencies of European firms. The population of the vilayet of Saloniki is about 1,150,000 people, of which Saloniki itself has some 100,000.

The commerce here depends largely on the political situation, on the results of the crops, and on the prices obtainable for the country manufactures, such as carpets, table covers, etc. In regard to the total imports here, Austria leads, followed by England, Germany, and Italy. Italy sells mostly sheetings, called Cabots, from their imitation of this American brand, and printed flannelets. They also sell large quantities of pearl and glass buttons, such as are used on the country clothes. On account of the higher home freight rates some Austrian firms have dropped out, but they still have the lead, supplying mostly cheap prints, sheetings, and knit goods. The main consideration at Saloniki is cheapness, quality being a secondary consideration.

NATIVE HAND MANUFACTURE—CREDITS.

In European Turkey, as a rule, the native finds it cheaper to buy foreign goods than to manufacture for himself. Owing, however, to the high prices that have prevailed for the past year, the native hand manufacture, both here and in other parts of European Turkey, has been stimulated to an enlarged production which finds ready sale with the country people. There are some 4,000 to 5,000 bales of cotton raised annually in this vilayet, of which part is locally manufactured and part exported, mostly to Austria.

On imported cotton goods the rule here is six months credit, or 6 per cent discount for cash, but this varies. This credit is readily given by the Italians and Austrians, but the other countries only do so when they find they can not get the business otherwise. As long time is not given on cotton yarn as on cloth; in fact, it is more a cash business, but usually a discount is given for cash. The yarn comes from Italy and England, with some from Austria, mostly 6s to 12s in the gray, 6s, 8s, and 10s colored, and a smaller amount of higher numbers up to 30s. Austria furnishes a certain amount of mercerized yarn, mostly 14s.

ASIA MINOR.

OPPORTUNITIES FOR DEVELOPMENT.

AREA, POPULATION, AND RAILROADS—A MARKET WORTHY OF CLOSE STUDY BY AMERICAN EXPORTERS.

Asia Minor, the great peninsula of Asia that extends between the Mediterranean and Black Seas, consists of the following vilayets: Brusa, Smyrna, Kastamuni, Angora, Konieh, Adana, Sivas, Trebizon, the islands of the Archipelago, and the districts of Ismid and Bigha. The main ports are Smyrna and Trebizon.

The peninsula, containing some 193,000 square miles, and probably 9,000,000 inhabitants, out of a probable 25,000,000 in the whole of the Ottoman Empire, is the most important section of the Empire to be studied, but, owing to the lack of transportation facilities to the interior, its takings are not yet anything like what they should be, and, for the same reason, a large part of the country is undeveloped. It is partly supplied by Smyrna, partly by Constantinople, and partly from other sources.

Railroad facilities are very poor. There is a line from Smyrna to Constantinople, but much quicker time is made going around by sea. From Constantinople, or rather Skutari, the much discussed Bagdad railway runs some 500 miles, but further progress seems very slow. There is a line from Smyrna to Kassaba, and another from Mersina to Adana which taps the cotton-growing section. All these roads are being gradually extended, but the work proceeds slowly.

SMYRNA.

GROWING TRADE IMPORTANCE—SHIPPING AND BANKING FACILITIES.

Smyrna, next to Constantinople, is the largest city in Turkey, being the largest export port and the second largest import port. Its trade is growing faster than that of any other city in Turkey, and when modern railway systems have brought it into more direct communication with the interior and with the Persian Gulf, it should not only distance Constantinople, but become the shipping center for the western Mediterranean that Marseille is for the eastern. Situated, with a land-locked harbor, at the end of the Asian Peninsula, its strategic importance, in regard to commerce, can be seen from a glance at the map and needs no elaboration. Smyrna has better steamship facilities than any point in Turkey, and especially has direct lines to New York, so that the trade of the United States with Turkey is growing faster at Smyrna than at any other port.

The banking facilities of Smyrna are as good as any city in Turkey, but the cost of handling paper is unduly high, and an American bank would greatly help American business. There are at present six banks in Smyrna, as follows: Imperial Ottoman Bank and Bank

of Mitylene (both Turkish), Credit Lyonnais (French), Bank of Salonica (Austrian), Bank of Athens and the Orient Bank (both Greek). American business mostly passes through the Imperial Ottoman Bank and the Credit Lyonnais.

CHARACTER AND VALUE OF EXPORTS.

Accurate statistics of the trade of Smyrna are hard to obtain. The following list of the main exports was furnished by the manager of the Imperial Ottoman Bank as a list they had made up after checking the customs returns, with the aid of the large dealers, and is probably the most accurate figures to be obtained:

Articles.	1905.			1906.		
	Pounds.	Average price per pound.	Value.	Pounds.	Average price per pound.	Value.
Raisins:						
Sultana.....	154,330,000	1.72	\$2,662,000	70,150,000	5.50	\$3,850,000
Red.....	25,254,000	.27	673,200	14,030,000	.78	1,100,000
Black.....	43,493,000	.69	300,080	22,448,000	1.57	352,000
Barley.....	8,816,000	25.40	2,238,720	11,020,000	25.40	2,798,400
Opium.....	1,062,000	104.00	1,742,000	1,416,000	187.00	2,640,000
Valonia.....	154,330,000	1.70	2,613,600	171,166,000	1.38	2,361,920
Olive oil.....	26,657,000	5.80	1,546,600	35,075,000	6.37	2,233,000
Wheat.....	127,350,000	1.59	2,019,600	127,350,000	1.45	1,841,400
Cotton.....	23,851,000	7.53	1,795,200	20,203,200	8.78	1,774,080
Carpets.....			1,320,000			1,540,000
Figs.....	53,314,000	1.57	836,000	61,732,000	2.09	1,393,920
Tobacco.....				3,622,400	23.32	844,800
Beans.....	45,280,000	1.41	640,640	62,260,000	1.34	832,480
Wool.....	4,913,500	8.77	431,200	6,173,200	10.66	658,240
Sesame.....	11,886,000	3.03	360,360	9,905,000	3.53	349,800
Licorice.....	38,233,300	1.18	451,440	15,848,000	1.37	216,920
Goat and sheep skins.....				400,000		211,200
Cattle hides.....				50,000		165,000
White maize.....	18,112,000	1.01	183,040	18,112,000	1.09	197,120
Cotton seed.....	18,395,000	.78	143,000	18,395,000	.81	148,720
Nutgall.....	566,000	10.10	57,200	1,132,000	11.90	123,200
Yellow corn.....	367,900	31.09	114,400	339,600	31.09	105,600
Chick peas.....	19,923,200	1.96	390,280	5,094,000	1.81	92,400
Poppyseed.....				2,462,100	3.00	73,920
Gum tragacanth.....	198,100	21.77	43,120	226,400	24.50	55,440
Maize.....	2,320,600	1.07	25,080	3,396,000	1.01	34,320
Total.....			20,587,160			25,993,680

An accurate list of the imports into Smyrna does not exist, but cotton piece goods predominate. The Imperial Ottoman Bank, from its inquiries among the importers, states the import of cotton goods into Smyrna during 1906 to have been 24,038 bales, of a total weight of 16,734,972 pounds. Similarly they give the total yarn imports at 16,928 bales, weighing 6,120,508 pounds. The main cloths imported seem to be gray shirting, prints, flannelets, T cloth, white shirting, denims, colored drills, and gray sheeting.

EUROPEAN IMITATIONS OF AMERICAN COTTON GOODS.

About every trick that can possibly be known to the textile trade is in use at Smyrna. American labels and trade-marks are imitated, 36-inch sheetings are found to be 34; lengths are marked 40 that are actually only 36 yards; yard folds are 2 to 4 inches short of the yard; inferior sheetings, made of part American and part Indian cotton, are openly sold as American cloth; and, in many other ways, the consumer is persuaded to buy goods at a slightly lower price, say a 5 per cent reduction, when in length, width, weight, construction, or quality its value has actually been reduced 10 to 25 per cent.

The worst offenders in this respect will put on any mark required. For instance, the Cabot sheetings as they come from the United States are 36 inches wide and 40 yards long. The imitators put "40" at the bottom of the bolt, and on being counted there are found to be 40 folds, as usual, while actual measurement shows that there are only 36 yards, put up into 40 folds. The Cabot brand has been imitated and the distinctive blue labels with white lettering that have latterly been used to distinguish the American cloth have also been imitated, with a few slight alterations. There is a brand on the market like the Cabot, marked Cadot.

The object of all this imitation is undoubtedly to make the consumer think he is getting the standard American goods. The large importers at Smyrna defend these practices by saying that they are well known to the trade; for instance, the fact that Manchester prints are put up in "yard" folds does not mean usually that the folds are a yard in length, but they may be 1 to 3 inches shorter. The importers at Smyrna doubtless know all these details, but the consumer in the country does not, and he is the one that suffers. It is such methods, added to the cheaper construction of goods and the fact that no American agent is on the spot to point out to the consumer the frauds, that account for the decreasing sale of American sheetings and drills on this market.

COTTON GOODS IMPORTS AND FREIGHT RATES.

The cotton goods imported into Smyrna annually amount to over \$5,000,000, and of this the United States, with the present direct steamship connections, should have a good share. There will have to be an American agent on the spot, however, to combat the sharp practices of competitors and to show the actual consumer where his interest lies. About the only goods supplied from the United States at present are gray sheetings, ducks, and gray, blue, and black drills, and these are not being pushed actively, hence the sales are declining.

The freight rate from New York to Smyrna varies, but is now about 20 shillings (\$4.865) per 40 cubic feet, and 5 per cent prime; it amounts to about 3 per cent on goods valued at 5 to 10 cents a yard. The freight from Liverpool to Smyrna is about 17 shillings (\$4.14), so there is not over one-half per cent difference. Sometimes, on account of competition, the freight is actually cheaper from the United States. There are now direct lines to New York, and the time is only nineteen days, as compared with an average quick shipment from Liverpool of at least twenty-two days; mail, however, gets to Smyrna from Liverpool in eight days. Wherever possible it should be the policy of American exporters to patronize the new Greek Moraities Line. The reason for this is that this line makes a direct trip from New York to Smyrna, with only a stop at Piraeus, and there is therefore a certainty that goods will go through without transfer and, in the absence of an American line, the building up of this direct Greek line is to the interest of American trade.

CHARACTER OF PIECE GOODS CONSUMED.

A feature worth noting at Smyrna is the increasing sale of the cloth called "barchent." In summer the people use large quantities of the regular shirting prints, and in winter large quantities of the printed flannelets. Barchent is now taking the place of the regular printed

flannelets. It has a hard and, usually, dull finish on one side, and is usually napped on the unprinted side. It is in various widths and lengths, mostly about 70 centimeters (27.6 inches) wide and 40 to 50 meters (43.6 to 54.5 yards) in length. The split goods are sold in 55 to 60 centimeter (21.6 to 23.6 inches) widths. These are woven in double widths and split down the center. The 70-centimeter widths are selling for 38 to 58 centimes a meter (7.3 to 11.2 cents per 1.09 yards) c. i. f. Smyrna.

Cotton flannel, flannelets, and barchents, especially the printed napped goods, are controlled by the Italians. The Austrians supply a good quantity of Vichy. The trade in Cabots is now divided between Italy and Austria, with only a few from the United States. Some of the sheetings sold here by Italians and Austrians and labeled "Cabots," "American cloth," etc., are good sheetings, but the majority is inferior filled goods made of part American and part Indian cotton. They are thus enabled to undersell the genuine article. The widths of the Italian are also usually narrower than the American.

There is not a very large import of drills, and the greater proportion of these are colored. The gray drills are mainly Italian and English, 28-29 inches, 40 yards. Blue drills come largely from Holland. Cheap aniline dye is often used.

In prints there are some from many countries, but the great bulk is from Manchester. The German good shirting prints are higher in price than the English. There are no split prints on the market, as the demand is for a good quality. The average print is about 20 by 20 construction, and 31-32 inches in width.

The white shirting and T-cloth trade is a monopoly of the English, both in various widths and qualities, but the main white shirting is 34 inches, 40 yards, with a cambric finish, and the T cloth is in 24-yard lengths, and most largely sold in the 32-inch widths.

Blankets, wool and cotton, are ordered in the summer for fall delivery, the orders usually being placed in May, June, and July. Women's muslin veils were formerly bought already printed from Switzerland, but the muslin is now imported from England and hand printed at Smyrna.

CREDITS—YARN IMPORTS AND PRICES.

Cabots at Smyrna are usually a cash business. Prints are usually on six months time, or 5 per cent discount. On flannels the Germans give five months credit, or 5 per cent discount. The Italians on this only give the 5 per cent off for cash in ten days. [A list of the large importers of cotton piece goods at Smyrna is on file in the Bureau of Manufactures.]

The majority of the yarn imported is in the gray; the trade divides the imports into yarn, twist, and extra hard twist. By yarn is meant the soft twist yarn, suitable for filling, and in this Bombay, Austria, and Manchester compete. Italy has dropped out on this line. Bombay supplies over two-thirds of this, mostly low numbers, while Manchester supplies all the specialties. The Bombay numbers are mostly 8s and 12s, while Manchester runs up to 36s. Of the twist imported, usually called water gray, the numbers run from 6s to 32s. The low counts are supplied from Italy and the high from England. Nos. 8 to 12 are now quoted at 9.30 francs (\$1.79) per 10-pound bundle c. i. f. Smyrna, and 12½ centimes (2.2 cents) added for each number higher.

Each 10-pound bundle contains the same number of hanks as the number of the yarn, except for the coarser counts, where the skeins are divided into half skeins. The extra hard twist, also referred to as water gray, comes mostly from England, with a little from Italy. Nos. 12 to 14 are now quoted at $10\frac{1}{2}$ francs (\$2.02) per 10-pound bundle and $12\frac{1}{2}$ centimes (2.2 cents) added for each number higher. These prices are unusually high, and are tending to check the import. Most of the yarn arrives in 400-pound bales, consisting of forty 10-pound paper-covered bundles.

EUROPEAN TERMS OF SALE—ENGLISH MONOPOLY BEING BROKEN.

In selling yarn, England as a rule demands cash in Manchester, India takes cash on delivery, while Italy gives four months, or $3\frac{1}{2}$ per cent discount for cash. The Italians usually forward bills of lading to their local agents, who surrender them to the buyer against three or four months drafts on London, and these drafts, being immediately sent to the manufacturers, are discounted by them at bank, and their money set free again.

In the spring of 1907 there were unusually large quantities of Indian yarn imported, but this has at present eased off somewhat. This sudden flow was due to the accumulation of Indian yarn at Shanghai and Hongkong, and the flood of Indian yarn being suddenly checked in that direction, the back rush sent Indian yarn into every section of Europe, including Turkey, Greece, Italy, Germany, Belgium, and even England itself. The Indian prices were such that they got the market, but the yarn did not come up to sample, and the amount now being pushed in is much less.

The German, Austrian, and Italian firms doing business in Turkey employ a good many commercial travelers, and these men are usually well educated in languages, cater to local requirements, and give credit. The English have fewer travelers, and so are not holding their own, even though they have the best established business. British exports to Turkey are mainly cotton goods from Manchester, but in Manchester itself German capital and German management is steadily increasing, and in Asia Minor the Germans, Italians, and Austrians are gradually breaking up England's monopoly on one line after another.

SYRIA.

IMPORTANCE AS A MARKET.

AREA, POPULATION, CITIES, AND DEVELOPMENT—CLASSES OF GOODS CONSUMED BY THE PEOPLE.

Syria is one of the main divisions of Asiatic Turkey, and extends along the eastern shore of the Mediterranean from the highlands of the Taurus in the north to Egypt on the south. It contains about 115,000 square miles and probably 3,000,000 people.

Beirut is the gateway for Syria. Alexandretta is also an important port. Other ports like Yafa, Haifa, and Tripoli are of less importance. The main interior towns are Damascus, Jerusalem, and Aleppo. Damascus is the largest city in Syria, and the most important distributing center. Jerusalem is important commercially only by reason of the crowds of tourists and pilgrims that swarm there. Aleppo is the starting point for most of the interior trade, especially of caravans to Bagdad and Persia.

The central coast portion of Syria embraces ancient Phœnicia, and the Syrian merchants of to-day have inherited much of the old Phœnician commercial shrewdness. Modern improvements are making more headway in Syria than in any other portion of the Ottoman Empire, not excepting European Turkey. Damascus was the first city to have electric lights and street cars, and Beirut now has a similar concession. The best educational facilities in Turkey are to be found in the American school at Beirut, and the people of Syria are more wide-awake to the advantages of modern inventions.

Though three-fourths of Syria is Mohammedan, there are few Turks in this section. The inhabitants are usually classed as Syrians, Arabs, Turks, Jews, and Europeans. The Syrians are the descendants of the ancient peoples who spoke Aramaic, a dialect akin to Hebrew, but their language now is mainly Arabic. Part of the Arabs proper are settled on the land, but the Bedouins are nomadic. The Turks consist of peasants who have settled in various parts of the country, a few effendi or Turkish gentlemen, and the official classes. The Jews are comparatively few in number, and are settled in Palestine. Further immigration of Jews is now forbidden by law. The Europeans are few in number, and nearly all reside at the ports. There is also a class called Levantines, who are descendants of Italian, Greek, and other ancestors, but who have entirely adopted the manners of the country. They are important commercially.

RAILWAY DEVELOPMENT.

Railroads are being extended more rapidly in Syria than elsewhere. The most important is the Government railroad from Damascus to Mecca. This road is regarded as a military necessity, but it has been exploited as a religious road to the holy city of Mecca, and the faithful

all over the Mohammedan world have contributed to its building. All Turkish officials were assessed one month's pay as an involuntary contribution, and many local taxes have been levied for the purpose. The railroad now extends from Haifa, the real starting point, to Derat, where a branch reaches it from Damascus, and has thence been extended southward to Rabbath Ammon, and past the east side of the Dead Sea. It is being built by German engineers and is expected to be finished to Mecca by 1910.

Another railroad, at present more important commercially, is the French line from Beirut to Damascus, which does a considerable business. From Reyak Junction on this line another line extends northward to Aleppo. Naturally Aleppo should be supplied from the near-by port of Alexandretta, but they are separated by a chain of steep mountains, and all talk of a connecting railroad line has as yet come to naught. Another railroad in Syria is the short line from Yafa to Jerusalem. The separate line from Reyak Junction to Aleppo is the standard 4 foot 8½ inch gage, but the other lines are meter gage (3 feet 4 inches).

When the country has been thoroughly opened up by railroads, and foreign capital given more protection, there should be quite an extension of manufacturing in Syria, for there is a good deal of water power available; the Jordan, for instance, falls 4,000 feet in 120 miles.

TEXTILE TRADE—KINDS OF GOODS WORN.

The Syrian textile market differs from that of Asia Minor and of European Turkey in that the trade is in the hands of the native merchants, and that few foreigners or Levantines are to be found in business. It also differs somewhat in the styles of clothes used; for instance, muslins, especially tanjibs, are imported more largely at Beirut than at Smyrna or Constantinople, being used as head coverings by Druses and other sects that are mostly found in Syria. Also there is a large population of Bedouins, so that colored head cloths and towels, which are worn by them under their camel's-hair circlet, are largely in demand.

There are no statistics available as to exact value or kinds of cloth imported into Syria, but the total of the cotton goods imported by Beirut, Alexandretta, and the smaller Syrian ports must be about \$8,000,000 a year. The largest import seems to be of T cloth and gray shirting, then prints, white shirting, flannelets, sheeting, tanjibs, muslin, and colored goods. These goods come from Great Britain and Italy, with a few from Austria and Germany, and a trifle from the United States and other countries.

The climate of Syria is hot and dry in summer, and rainy but comparatively warm in winter, so that except in the mountainous regions, heavy clothing is not usually required, and lighter cloths are mainly imported.

The native costume in general consists of a long robe or cloak, with or without a varicolored waist sash, a red fez, and stockingless slippers. Around the cities the European costume is being adopted more and more.

Cotton is raised in some places in Syria, but not in such large quantities as at Adana, in Asia Minor. At one time, just before the American civil war, cotton was grown more or less all along the coast from Gaza to Tyre, over an area some 100 miles long by 10 miles

wide, and there were 20,000 bales a year exported. When American cotton dropped in price after the war, cotton cultivation ceased in Syria, and has never been revived. The soil is clayey in character, and in places very well adapted to cotton, but as a whole it is not a suitable country for cotton, much of the land being available only when irrigated. Of some small lots I saw growing the staple was fairly good and would grade up well. The time of planting is April and time of picking September.

BEIRUT.

LARGE COTTON GOODS IMPORTS—STEAMSHIP AND CABLE FACILITIES.

Beirut, next to Constantinople and Smyrna, is the largest import center in the Ottoman Empire. It is situated in the middle of the Syrian coast and has an open harbor, partly protected by a breakwater. It is the successor to the ancient Berytus, a Phœnician city, and its merchants still retain the commercial shrewdness if not the enterprise of the Old World merchants, so that while Armenians handle the trade at Constantinople and Greeks monopolize the trade of Smyrna, that of Beirut is in the hands of native Syrians, with whom few foreigners are able to compete.

This port does not have the steamship facilities of Smyrna and Constantinople, and goods from the United States must be transshipped at Trieste, Smyrna, Alexandria, or other points. There are many regular steamship lines running to this port, however, so that, except for the delay and danger of damage by transshipment, there is no trouble in getting shipments from the United States as readily and cheaply as from Liverpool.

The cable charges at Beirut are unduly high, by reason of messages having first to be sent to the censor at Constantinople and no code being allowed. Only codes made up of words that will form sentences can get through the censor. The rate to Liverpool is 72 centimes (13.9 cents) a word, but to New York it is nearly 50 cents a word, which is a drawback on business with the United States, especially as correspondence would take twice as long to New York as to Liverpool.

The main import of Beirut, as of Turkey in general, is cotton goods. A leading merchant of Beirut estimates that Beirut imports annually about the following proportions of the main cloths, in pieces: T cloth and gray shirtings, 1,000,000; prints, 500,000; gray sheetings, 400,000; muslins and tanjibs, 250,000; white shirting, 200,000; flannelets, 50,000.

T CLOTH AND SHIRTINGS.

T cloth is one of the largest, possibly the largest, single items in the list of cotton piece goods imported into Beirut. T cloth is usually 24 yards long and 32 inches wide, with a colored head end. Most of the T cloth imported at Beirut is 24 yards long, but the widths in demand vary from 26 to 36 inches. Some of the lengths marked 24 yards only measure 22 yards. The weights per piece run from 6 to 12 pounds, according to width and construction. The usual construction may be taken at about 18 square.

Gray shirting is also a large import, and is the usual 38-inch, 38-yard goods. The widths vary from 34 to 56 inches, but are nearly all 38 yards in length. The most popular brand is from Manchester,

which has a narrow green heading, and is made in varying widths. The construction is the same for all widths, and the weight varies according to the width. The one firm which has the agency at Beirut has a contract for 600 pieces a day of this cloth.

White shirting is used in large quantities, and is mostly 36 and 38 inches wide, 40 yards long. It is imported in constructions from 12 by 14 up to 19 square. The soft finish is preferred. About the only American brand on the market is the 36-inch Langdon GB fine shirting, which is well liked.

Turkey red shirting, if genuine, now sells for 12 cents a yard, but the usual Turkey red shirting on this market is really benzo color, which is not a fast shade, and sells for 6½ to 8 cents a yard. They are mostly 36-inch, 40 yard, and 18 by 19 and 18 by 21 constructions.

PRINTS AND GRAY SHEETINGS.

The prints needed for Beirut are rather pure finish, soft feel, and are wider, of closer construction, and of better quality than the average American print. Stiffer finish is required at Damascus. Syria in general takes cheap goods, but in prints this is not so much the case, as the country people wear mostly colored goods, especially the cheap native manufactures, and prints are worn mostly by the classes in town who can afford better cloth. The 64 by 60 print has little sale, and the prints used are at least 17 square and upward to 20 by 21. Low qualities are also on the market, but the bulk of the demand is for the finer goods. Very few narrow prints are sold, the demand being for the 31-32 inch print. The lengths are mostly 56 and 70 yards, the dealers giving as one reason that a 24-yard bolt of prints feels too limber, and the retail dealers want a stiff-feeling package. There is also a saving to the manufacturer in weaving long lengths, and it costs less in putting up long bolts than short bolts, so the cost can be slightly reduced.

The prints come in "yard" folds, of 33, 34, and 35 inches, and the bolt is folded three times before tacking. They are sold by the yard or rather fold of 33 to 35 inches instead of 36 inches, the dealers saying that everyone knows that by yard in this case is not meant 36 inches. The feel is the main point. The best qualities are in the 35-inch folds, and 50 to 60 yards, while the cheaper prints are mostly 33-inch folds, 70 yards. Prints come 20 long pieces to the case, and there are some 2,500 cases imported a year. The prints from a Manchester firm seem to have the biggest reputation. There is quite a good import of extracted prints, and the main colors favored are given by an importer as being about 30 per cent red, 20 per cent chocolate, 15 per cent black, 15 per cent navy blue, 10 per cent pink, and the remainder other colors.

Most of the gray sheeting used in Syria comes from Italy and Austria. The American Cabot brand is considered the standard, but there is little on the market, and that which is sold under this name is mostly the coarser, cheaper Italian cloth. These run from 10 by 12 constructions up to 18 square.

MUSLINS AND OTHER GOODS.

Muslins are imported in considerable quantities for clothes, head cloths, veils, etc. The tanjibs, largely used for head coverings, come in 18-yard lengths, frequently marked 20 yards, with a colored head

end. They are 14 to 24 inches wide, 10 by 12, 12 by 12, and 12 by 16 construction, and cost from 30 cents up to \$1.22 a piece. Muslin and tulle are also imported for making the coarse veils used by the Mohammedan women. They come in 28-inch widths, and are cut up into 28-inch lengths. They are hand printed with large flower designs, being similar to the art muslins used in the United States for cheap curtains. The construction is usually about 48 by 28 ends per inch. Formerly England sold this muslin to Switzerland, where it was hand printed and shipped to Turkey, but now the muslin is bought direct, and hand printed locally more cheaply. Large striped muslin prints are also used by the Arabs and Bedouins as head covering under their camel's-hair circlets, red and white being the most favored.

Drills are imported in different qualities for different purposes, and are practically all 28-inch widths. The shoemakers prefer a stiff, leathery feel, and to have two blue warp threads run in on each side, about an inch from the edge.

Cotton trousering comes from Italy, Belgium, Germany, and Austria, with some low grades from Manchester. It is usually 62 centimeters (24.4 inches) wide, and costs from 30 to 80 centimes a meter (5.8 to 15.4 cents per 39.37 inches) landed at Beirut, less 5 per cent discount for cash.

Very few handkerchiefs are imported in plain color, being mostly red, white, and yellow, red, white, and black, or yellow, white, and black. The large ones are used for head coverings.

TERMS OF SALE—YARN IMPORTS.

In selling cloth to Beirut, except where they have special connections, the English system seems to be cash against documents. It is important to note however that they rarely expect draft to be paid before arrival of goods, and the collecting banks have instructions that drafts are to be accepted by customer and only collected on arrival of goods.

The Italians give 5 per cent discount two weeks time, 3 per cent discount two months time, and 5 months time without discount, against purchaser's acceptance.

The Germans give 7 per cent discount thirty days time for cotton goods, 13 per cent discount thirty days time for woolen goods, or six months time, from arrival of goods, without discount, against purchaser's acceptance.

Goods are bought by the yard or meter (39.37 inches) and sold by the pic of 27 inches.

One of the largest Beirut yarn importers estimates the yarn takings of Beirut as 5,000 bales, 12s to 24s, from England, 120 packages to bale; 1,500 bales, 6s to 12s, from Italy, 40 packages to bale; 1,000 bales, 6s to 12s, from India, 40 packages to the bale.

Both yarn and cloth arrive at Beirut mostly in large bales, up to 1,200 pounds in weight, and is there broken up into smaller bales of, say, 100 kilos (220.4 pounds) or under, for transshipment to the interior. Labor being much cheaper in Beirut than in manufacturing countries, it pays to ship in large bales and have the rebaling done there. The usual yarn bale from India and Italy is 40 bundles of 10 pounds each, but the English bales come 40, 80, and 120 bundles, most of the bales seeming to be of the largest number. All yarn,

of course, is first bunched into 10-pound bundles and wrapped in separate packages before baling. Some yarn is put up in half bundles of 5 pounds each, but this is not customary. Smyrna does not do so much transshipping to the interior, so yarn is usually received there in 40-bundle bales.

The high-grade yarn all comes from England, and it is claimed that in most of it 10 per cent of Egyptian is mixed with American cotton. The Indian yarn is nearly all from Indian cotton alone, while the Italians mix from 10 to 25 per cent Indian cotton with the American, so as to cheapen the cost.

The most of the yarn imported is in the gray and is dyed locally. The quoted cost price September 15, 1907, was $7\frac{3}{4}$ d. (15½ cents) per pound for 16s, and $9\frac{3}{4}$ d. (19½ cents) for 20s. Of the colored yarn imported the majority is red, yellow, or green. The additional charge for dyeing runs from $1\frac{1}{2}$ to $3\frac{3}{4}$ pence (3 to 7 cents) a pound.

ENGLISH PRICES FOR DYEING.

The following list was shown me by an importer as the present scale of prices charged him by a Manchester concern for dyeing, additional to the cost of the gray yarn, and he received 5 per cent off for monthly settlements: Coral, light straw, ecru, nectarine, greenish yellow, light coral, sky, pink, light sky, light cream, cream, dark lavender, lavender, light blue, and peacock, $1\frac{1}{2}$ d. (3 cents); lemon, $1\frac{1}{2}$ d. (3.8 cents); yellow, dark coral, dark red, black, dark fawn, olive, fawn, light drab, dark drab, greenish olive, blue, bronze green, dark straw, light buff, buff, light olive, indigo sky, and slate 2d. (4 cents); pea green, $2\frac{1}{2}$ d. (4½ cents); crimson, light coffee, coffee, dark aniline orange, aniline orange, dark claret, claret, violet, dark buff, light green, aniline green, $2\frac{1}{2}$ d. (5 cents); orange, dark aniline green, dark aniline blue and pink, $2\frac{1}{2}$ d. (5½ cents); medium green, dark green, 3d. (6 cents); very dark green, aniline black, $3\frac{1}{2}$ d. (6½ cents); indigo blue, $3\frac{1}{2}$ d. (7 cents); dark alizarine red, 5d. (10 cents).

The yarn trade is much more a cash business than is the cloth trade. A good deal of the English yarn trade is cash before shipment, while the bulk of it is probably cash against delivery. Of course with their best regular customers they have special arrangements. Also some of the Syrian merchants have their own branches in England, in which case they make their own arrangements. The Indian mills ship on cash against documents, but this is usually taken to mean cash against delivery, and the banks are instructed to hold paper until the shipment arrives. The Italians give time, or else give a 5 per cent discount for cash in two weeks.

JERUSALEM.

AMERICAN BUSINESS ENTERPRISES—VALUE OF THE TOURIST TRADE.

Jerusalem is a walled city of probably 60,000 inhabitants, of whom some 40,000 are Jews, 13,000 Christians, and 7,000 Moslems. One of the most progressive associations at Jerusalem is that known as the American colony, of which, though there are other nationalities included, the majority are Americans. They run various lines of enterprises, especially that of manufacturing souvenirs from olive wood. They keep a store, at which they sell such souvenirs, rosaries, crosses, ornaments in mother-of-pearl, articles in black stinkstone,

albums with olive-wood backs, books of pressed Judean flowers, etc. The majority of the articles they sell are made by themselves. In fact the industry, of which there is an export of some 500,000 francs (\$96,500) a year, has been developed at Jerusalem by the Americans. They also import a few American goods for their own use. About half the people of Jerusalem live in the suburbs, and one of the best of these is that inhabited by Jews from Bokhara and other cities of central Asia.

The natives of this rocky, barren country are very poor, and a large part of the inhabitants of Jerusalem live on foreign charity, so the bulk of the goods required there are cheap goods. There is little back country trade on which to draw, and the Bedouins and other wandering people buy in the larger marts to the north. The total trade of Jerusalem, therefore, is not large, and there seems no prospect of much advance in this line.

The trade, however, is much helped by the tourist traffic. It is claimed that 20,000 or more people visit Jerusalem each year, of which about one-half are Russians, the remainder being from every nation in Europe and the United States. There are a great number of wealthy tourists, who scatter much gold, not only for souvenirs, but for staple and fancy goods, and the number of such tourists, especially from the United States, is increasing yearly.

SUPPLIES OBTAINED MAINLY FROM BEIRUT.

Commercially, Jerusalem is tributary to Beirut. There are practically no importers of piece goods at either Jerusalem or Yafa. The merchants of Jerusalem make frequent trips to Beirut, and get their stock of goods in that market from the big importers. They usually have to pay part cash, but the larger merchants get three months time on the remainder. Some, of course, have special arrangements. The smaller merchants have to pay all cash, or else buy somewhat on the installment plan, paying so much each week to an agent at Jerusalem of the Beirut importer.

If an American firm were to establish a supply house at Yafa, it could get much of the Jerusalem piece goods trade, but a large stock would have to be carried, and the enterprise would hardly pay. From Beirut goods can be obtained at Jerusalem in three days, with good connections. To Jerusalem merchants with whom they have a long established business the Beirut importers give long terms—three, four, five, or sometimes up to twelve months. For cash they offer discounts ranging up to 12 per cent. On the few goods imported into Jerusalem direct by two or three of the largest merchants the English demand cash against delivery, but Germans, Austrians, and Italians give credits up to six months from shipment, or four months from arrival of goods.

Business has been bad at Jerusalem for the last two or three years. This is partly due to the fact that the people there are largely supplied with money from abroad, and as half of the Jews are from Russia the Russo-Japanese war affected them considerably.

CLASSES OF PIECE GOODS USED—YARN IMPORTS.

The T cloth, shirting, and prints at Jerusalem come from England, all others from the Continent. There is a large sale of T cloth, in all widths, and of cheap prints. The T cloth widths run from 20 to 34

inches, and are supposed to be 24 yards long. The prints are mostly the regular Manchester 31-32 inch, but there seems here to be a good demand for prints 35-36 inches. The fancy prints come from France, and are about 60 centimeters (23.6 inches) wide. The standard English, gray and white shirtings have a good sale in the various sizes, mostly 38-inch, 38 yards, in the first, and 35-inch, 40 yards, in the second. The pure finish is preferred. Tanjibs, for head coverings, etc., come mostly 33 to 35 inches, 16 to 20 yards. Drills are a small import, mostly solid dyed or striped. Most gray drills are cotton and linen goods. Brilliantines are largely sold. There are few flannelets on the market. Woven goods are sold in fair quantities, especially Oxfords.

There is a small quantity of yarn imported, mostly in the gray or in black. Very little colored yarn is imported, as the gray is dyed locally, with indigo and aniline dyes. Most of the yarn is 20s and is used for making cotton stockings and knit work. There are only about 20 hand looms at Jerusalem, and their production is not noticeable. The weaver makes 3 to 5 yards of narrow nankeen a day, and sells it for about 10 cents a yard. There are also some similar narrow hand-woven goods imported from Egypt, which are used for Bedouin tents and for coarse wearing apparel. This is all in the gray.

MAILS AND FREIGHT RATES—RETAIL MERCHANTS.

Letters from the United States arrive in about seventeen days, from England in ten. The freight from Yafa to Jerusalem is 1 franc per bale. The total charges from Beirut to Jerusalem is 12 francs (\$2.12) a bale. This includes loading, water and land transportation, passing customs, cartage, etc. The value of a bale may be roughly taken at 800 francs (\$154.40). The large bales are repacked at Beirut, or very often at Yafa, into smaller bales, so as to be handled by men at Jerusalem and other places in the interior.

Most of the merchants at Jerusalem are Jews with some Syrians and a few Germans. The retail cotton piece goods trade is concentrated on the Street of David and its adjoining alleys. This is a narrow, dirty thoroughfare that slopes down from the Tower of David to the old hospice of the Knights Templars. It is paved with Belgian block, and stepped or terraced, so that it would be impossible to drive down it even if it were not so narrow. It is always crowded, but loaded donkeys are driven up and down through the pushing crowd. The merchants have their goods in little open stalls on either side. As usual in such bazaars, different shops specialize on prints, on T cloth, or some other line. Some of the Jews have shops in their own houses. These are especially to catch the trade of the women, who do not like to go into the crowded public bazaars.

HAIFA.

PRESENT AND FUTURE IMPORTANCE—FREIGHT RATES AND ROUTES.

Yafa, Haifa, Acre, and other small ports are supplied from Beirut, and are not of much interest to the exporter of piece goods. Yafa's only importance is as an entrance way to Jerusalem, but, as the harbor is small and full of jagged rocks, it is a very inconvenient entrance, and if the contemplated railway from Haifa to Jerusalem is ever built Yafa will lose what little importance it now has. Haifa,

on the other hand, is a port of some promise. The harbor at present is open and landing difficult, but the sea here sweeps inland in a great curve, on the shores of which are situated both Haifa and Acre, and if the projected breakwater from the foot of Mount Carmel is ever built, as planned, the harbor thus made will be the best on the Syrian coast, and four times the size of that of Beirut. The Damascus-Mecca railway starts at Haifa, the Damascus-Derat line being really a branch, and this fact gives Haifa its present importance, and its great increase in imports in the last two years are mostly of railway material and supplies.

The freight from Beirut to Haifa is usually 1 franc per 100 kilos (19.3 cents per 220 pounds). A pier duty is levied by the town of one-half bishlig (about 12 cents) a bale. Both the pier and custom-house are very small, and are to be enlarged shortly. Lighterage is 3 piasters (13.2 cents) for 100 kilos or under, $4\frac{1}{2}$ piasters for 100 to 200 kilos (19.8 cents per 220 to 440.8 pounds), and above that by arrangement. In buying from Beirut the merchants formerly got nine months time, but credits are being contracted, and six months is now about the limit. The Haifa business is too small for the United States, as most of the goods ordered are in half-bale lots, and as the minimum freight from the United States is \$10, the local merchants could not afford to order in small quantities as they do, not only from Beirut but, to a certain extent, from Europe. The minimum freight charges are as follows: From Marseille, 96.5 cents; from Germany, \$1.93; from the United States, \$10.

Goods from the United States formerly went by the Hamburg-Amerika Line to Germany, and thence by the German Levant Line to Haifa, and took over six months. Freights have been much expedited of late, but the quickest to be figured on now is about five weeks, by the Austrian Lloyd Line to Trieste, and there transshipped for Haifa. From Liverpool the route to Alexandria, and thence to Haifa, by the Khedivial Line, takes only three weeks. If shipped by the Prince Line the goods are transferred at Smyrna, but as stops are made all along the coast the time from Liverpool this way is usually four weeks.

DAMASCUS.

IMPORTANCE AS A TRADE DISTRIBUTING CENTER.

Damascus is probably the oldest surviving city of the world, and is one of the most oriental of oriental cities. It is therefore strange to find that it is the first city in the Ottoman Empire to feel the vivifying influence of electricity, but along its narrow streets and through its kaleidoscopic crowds runs a modern electric trolley line. The contrast there presented, as the horn of the motorman warns the Bedouin with his slow camel kafila off the track, is almost startling, and is but an instance of how, all around the world, in the present decade as never before, the old order is giving way to the new.

Damascus is the largest city in Syria, the meeting place of many peoples, and the best point in Asiatic Turkey at which to study the costumes and the textile requirements of the inhabitants. While Smyrna and Beirut are the two importing centers of Asiatic Turkey, Damascus is the largest interior distributing center, and the products of Manchester, Solingen, and Chicago meet here on the counter with

goods from Bokhara, Bagdad, and Mecca. The city is 91 miles by rail from Beirut and beautifully situated among green groves at the foot of the Lebanon Mountains. The Barada (the old Abana), the Nahr el-A'waj (the old Pharpar), and other rivers make and preserve a green valley that is wonderfully fertile, being shut in by ranges of mountains from the surrounding barrenness, but naturally does not impress the European as much as it does the Arab from the desert. It is a very good fruit section, its peaches rivaling those of California, and in other hands its fruits would be unsurpassed.

Damascus lies at the crossroads of three continents, and at one time was one of the most important commercial centers of the world, being the connecting link between the East and the West, and the starting point of the great caravan traffic to Egypt, Persia, and other sections. The Suez Canal destroyed much of its importance by diverting the growing flood of commerce to another channel. The streets of Damascus are so crooked that one that happened to run straight for half its length was named the Straight street. Being so narrow and crooked, many are not available to teams, and much of the transportation is on donkeys or on the backs of porters.

POPULATION AND BAZAARS.

The present population is estimated at between 200,000 and 250,000, but as the Turks are forbidden by the Koran to take any census, this is an estimate only. About three-fourths of the people are Mohammedans and the other fourth Christians, Jews, Druses, etc. The people of all sects are very fanatical. There are some 12,000 Turkish troops stationed here regularly.

The city is famous for its bazaars, which, next to those of Constantinople, are the largest in the Levant, and everything is sold from a candle to a camel. These bazaars consist of small stalls or dens, usually some 8 feet square, elevated a couple of feet above the ground. Here the merchant sits, cross-legged, with his goods on shelves around him, within convenient reach. The street extends across from one shop to the other, without sidewalk, and past the salesman, within 3 feet, surges the travel of the city in endless procession, carriages and horsemen, donkeys, strings of camels, flocks of goats and sheep driven by Bedouins, pedestrians of all kinds, from the smart officer in his red fez and stiff European uniform to the fellah in squares of brown and white striped bagging.

The trades congregate in separate bazaars, or streets. Thus there are bazaars for the coppersmiths, the saddlers, the drapers, the goldsmiths, the fruit bazaar, the cloth bazaar, etc. One is called the Greek Bazaar, from the number of Greeks trading there. This deals mostly in curios, antiquities, inlaid work, carpets, and other things to tempt the tourist. In this bazaar street there is a block of shops in the European style, with glass fronts, counters, etc. The Greek Bazaar and the Straight Street Bazaar are the two largest, and both are roofed. Curved iron supports run from one shop roof to the opposite roof and on these rests the roofing. The whole bazaar street is thus protected from rain and sun, but, in spite of windows at intervals, it makes the shops very dim, except in the middle of the day.

In the Brokers' Market, where are sold second-hand firearms, iron-ware, etc., there are also to be found second-hand clothes from England and Germany. This is not surprising, however, for in far-away

northern India, in Peshawar Bazaar, at the mouth of the Khyber Pass, Afridis and Afghans also buy clothes that once were worn by Londoners.

THE CLOTH BAZAAR.

The retail piece goods trade at Damascus is mostly carried on in the Cloth Bazaar, which is a street running between the Greek Bazaar and the Straight Street Bazaar, and is partly covered over. Here the different retailers, as is usual in these bazaars, tend to specialize, one man handling T cloth and gray shirting only, another only prints, the next white goods, and others only the native manufactured Damascus stripes, tanjibs and head cloths, etc. This is one of the busiest bazaars in the city and is always crowded. The Damascene delights in dress, and goes to the limit of his purse. The men, especially, wear showy cloth, and like to have the best material. The women probably also do at home, but the high-class ladies are never seen in public, and even with the others it is the custom to wear black, which is silk or satin with those who can afford it, and native-dyed calico with the others. A few wear white sheets draped around them, and some wear yellow and black stripes, but black is the customary street dress for women. In Egypt the women cover their faces, from the eyes down, with a thin black or white veil, but in Damascus, and most parts of Turkey, they always wear a square of art muslin covering the entire face. This is exactly the same kind of printed art muslin that in the United States is used for cheap curtains.

GARMENTS OF THE PEOPLE.

In Damascus one sees many signs that the adoption of Western styles is increasing. The Turkish officers wear European uniforms, as a matter of course. The Turkish effendi or gentleman now almost invariably wears European garb in public, all except the head gear, which, with all classes, is the inevitable red tarbouche. Many of these wear oriental clothes at home and European costume abroad, and in shifting from Eastern to Western clothes seem to shift their habits, if not their opinions, also. The European shoes worn are on the French style, long and narrow in front, and are usually yellow or red. For the people generally the slipper without heel or back is the style, while heavy, hobnailed boots are worn by the peasants. The Christians are rapidly adopting European clothes as a mark of distinction.

The people ordinarily wear a long robe or gown called a "kumbaz," made of red and yellow stripes. This reaches nearly to the ground, and, except for a suit of underclothing, is the sole garment. These gowns for the men are made of various materials, satin, prints, flannelets, native cloth, etc. On the head is the fez, and on the stockingless feet the native slippers. Many wear a fancy cloth bound around the waist as a sash, into which they stick their matches, knives, pistols, or whatever else they wish to carry. It is becoming more and more the custom to wear a European coat outside this long robe, and the wearing of stockings is also becoming general among the shopkeepers and well-to-do classes. These are nearly all cheap German or Austrian socks, with gaudy horizontal stripes, and retail for 2 to 3 piasters (9 to 13 cents) per pair. The people, as a rule, wear their clothes night and day, which causes them to wear out sooner than they otherwise would.

COTTON GOODS TRADE.

One of the most striking features of the cotton piece goods trade at Damascus is the prominence of T cloths. One of the largest merchants I met estimated that of the total cotton cloths imported into Damascus 70 per cent consisted of T cloth and gray shirting. These are seen everywhere side by side with the native manufactured Damascus stripes. Damascus, in this respect, differs from Beirut, where the leading place in the local trade is taken by prints. Sheetings and drills are imported at Damascus, but not to any large extent. Next after the T cloth and gray shirting seem to come prints, then white shirting and flannelets.

The T cloth comes in various widths, running from 20 to 36 inches wide and from 4 to 9 pounds in weight. Probably the most common is the 30-inch, weighing 7 pounds. The lengths are all 24, so marked, though a good deal of it measures 1 to 2 yards short, which fact is known by the dealers, if not by the purchaser. It is used for many purposes, and is called "khum" by the native. A good deal of it is dyed and used for the long outer clothing. The most popular brand is distinguished usually by a narrow green head end. A popular Mexican brand sold is 37½ inches by 39 yards, and is 18 by 18 construction.

Gray shirting comes in various widths and weights, the most popular seeming to be the 8½-pound, 37½-inch goods. White shirting is called "madam," and is mostly 32, 34, and 36 inches wide and 40 yards long. The soft finish is the most popular.

Prints are mostly the shirting print, 31-32 inches wide; there are some 29-inch and narrower prints, and some wide prints, but the narrow prints on the market, mostly inferior qualities, are not so much in demand. The 29-inch prints are mostly 17 square, while the 31-32 prints are mainly 19 by 17, 20 by 20, 21 by 18, and 22 by 19, and similar constructions. The average retail price is about 2½ piasters, (11 cents) a pic, or 15 cents a yard. The usual prints are in 50 to 60 yard lengths, while the cheaper prints run up to 70 yards.

Tanjibs are called locally "shersh," and are largely used for head dress, etc. They usually come in 18 to 19 yard lengths, sometimes marked 20, and retail at 10 to 50 piasters (44 cents to \$2.20) a piece, according to quality.

A good deal of ordinary printed muslin, especially red and white zigzag-stripe prints, is also imported and used for head covering for the Arabs and others. A quantity of large bandanna handkerchiefs is also imported for the same purpose.

Cloth is sold by the pic of about 27 inches. It is bought by the yard; from the Continent by the meter (39.37 inches). The retailers on prints and some other lines seem to fix their selling price per pic at the same as their buying price per yard. Thus, on the ordinary 31-32 inch print, 20 by 20 construction, the price now paid by the retailer is about 2 piasters 30 para (10.1 cents) a yard, and six months time, and retails the same for 2½ piasters (11 cents) a pic.

MARKET REQUIREMENTS AND BUSINESS METHODS.

If Americans get into the textile market at Damascus they will have to offer a better article than is now on the market at a reduction, for the people are conservative and certain brands of white shirting and prints have become standard articles with them and

would be hard to displace. At the present time, however, a reduction in price seems to have a wonderful effect, even a 2 per cent reduction, and the Italians and others on some lines are getting a strong foothold. The continental countries give from three months up, the English follow suit where they are not able to control the market otherwise, and it is probable that Americans would have to do the same to build up any large trade. An American drummer, speaking French fluently, with a supply of neat head ends, and able to quote prices, could at least get a foothold, and, if the goods come up to sample, this could be enlarged; but samples with prices are the only way to arouse attention, as the people always want to see what they are buying, and especially to ascertain the feel of the goods.

In shipping goods to a Damascus merchant drafts should be made to the Syrian merchant, but drawn against the Imperial Ottoman Bank at London. The head bank at London then sends the draft to its branch at Damascus for collection. The rule there is three months credit, or else a discount for cash. The latter is preferable.

Most of the retail shops buy from the larger commission firms. These usually insist on part payment in advance, and then send a man around every week for a further payment, so it is really an installment business. There are many small merchants in this city, and this creates much competition, so that on many articles there is very little difference between wholesale and retail prices; on others, say on standard articles, like certain prints or shirtings, there seems to be a good margin for some one, though it is oftener the intermediary who has the exclusive agency.

CHANCES FOR AMERICAN AGENCIES—YARN IMPORTS.

Commercially Damascus is a dependency of Beirut, and the bulk of its goods are bought at that point. There are very few Damascus houses that import direct. One of the largest of those which does so is a German firm who say they are willing to handle American piece goods if samples are sent them and they find that prices admit of competition with goods from other countries. This firm, being a large one, can pay cash against delivery, if found to their interest. This is a large and reliable concern, and it would pay to send them samples and prices. They would prefer to get in touch with the manufacturers direct and cut out all middlemen expenses. [Name of firm on file in Bureau of Manufactures.]

The son of the American consular agent at Damascus is at the head of a combination of some dozen firms who make inlaid work, fancy furniture, copper and brass work, etc., for the tourist trade, and who do a good business in the United States in this line. This gentleman also handles a few American articles, and wishes to form a connection with some American manufacturer or commission agent to handle cotton cloth on commission, as he is in position to place goods to advantage. [Name on file in the Bureau of Manufactures.]

There is a good import of yarn at Damascus, which is mainly used for native weaving, as the present high price of foreign goods is stimulating the native hand industry.

On gray yarn India supplies about 70 per cent and Italy 25 per cent. The main numbers used are 6s, 8s, 10s, 12s, 14s, and 16s. The Italian yarn in these numbers is one-fourth Indian and three-fourths American cotton, but the Indian yarn, made of all Indian

cotton, can be sold cheaper, and thus has the lead, though the Italian yarn is the best spun.

On bleached yarn of finer numbers, 12s, 14s, 16s, 18s, 20s, 22s, and 24s, England sells about 80 per cent and Italy 20 per cent. There is noted a tendency for the sales to Homs and Hamah to diminish, as they now order from Beirut instead of Damascus. Mercerized yarns have a smaller sale, and are supplied partly by Manchester and partly by Milan.

Ply yarns are largely used in the native weaving of table covers, bedspreads, and such goods, as well as in garments, and have a large demand in numbers from 12s to 30s, two ply. The Indian cotton is too coarse for this work, and English and Italian yarn made of pure American cotton holds the market. England supplies about 50 per cent, Italy 40 per cent, Belgium 5 per cent, and India 5 per cent.

Colored yarns, for the most part red, yellow, or black, 16s, 18s, 20s, 22s, 24s, 26s, and 30s, come 70 per cent from England and 30 per cent from Italy. In colored ply yarn, 20s, 24s, 30s, 35s, 40s, 70s, and 80s, two ply, the import is divided between England and Germany.

DAMASCUS MANUFACTURES.

Damascus is not only the center for the distribution of foreign goods in Syria, but it is the center of native manufactures of all kinds, especially of cotton and silk goods. It has some 10,000 cotton and silk hand looms, besides a large number of carpet looms and carpet frames. Cotton manufacturing is also carried on at Homs, Sikkim, and other places, but probably more than one-half the native goods are manufactured and sold at Damascus. The looms used are very primitive in most cases, the majority being of the old throw-shuttle type. The cloth mostly made is the Damascus stripes, but a smaller amount of fine goods, of some artistic merit, is also turned out. There is quite a little weaving with tinsel and imitation gold and silver threads, some of this for table covers, etc., being largely purchased by tourists. About the coarsest cloth is the abayeh, or Arabian mantles, made in broad brown and white stripes, the common wear of the poorer Bedouins and fellahs. This is very rough cloth, and runs from about 8 to 16 ounces to the yard.

For the coarse goods the local spun cotton is largely used. For the finer goods foreign yarn is imported, and also, to some extent, for the medium grade goods, the yarn usually being imported in the gray and dyed locally. The yarn so imported is 4s to 30s, the bulk of it being 20s.

DESCRIPTION OF THE STRIPED GOODS MADE.

The Damascus stripes are largely worn by the people, and the majority consists of narrow red and yellow stripes. A typical stripe, probably the most common of all, is made of 19 red and 15 yellow warp threads alternately in a 20-inch width, using black filling. The construction is 48 filling threads per inch and averages 85 warp threads per inch, but the reeding is irregular, the 15 yellow ends being crowded into just half the space of the 19 red ends. This irregular reeding makes a stronger cloth. Another very popular design consists of red stripes of 24 ends alternately, with a series of closer reeded stripes made of 6 white ends, 4 green, 3 red, 5 white, 3 red, 4 green, and 6 white. The filling is black, and the width 20

inches. These two are typical patterns, such as are worn by merchants and business men. A somewhat gayer pattern, often seen, is composed of 18 white warp ends, 24 yellow, 18 white, 48 black, 18 white, 44 red, 18 white, 48 black, there being 8 repeats in 19 inches. The filling is white, 32 picks to the inch. This piece is heavily starched and of cheaper quality than the first two. The regular length of the native stripes is 9 pics of 27 inches each, or 6 $\frac{3}{4}$ yards, and it is retailed by the piece. Manchester and Germany have some imitation stripes on the market which have a small sale.

The trade of Damascus is large, and is increasing, and this would seem to indicate a rather more prosperous condition of the fellahs and Bedouins (the settled peasants and the migratory pastoral tribes), as it is on them that the trade depends. Damascus and Beirut are the important points in Syria, with Alexandretta and Aleppo next.

EGYPT.

DECLINE IN PRODUCTION OF TEXTILES.

MANUFACTURING NOW LIMITED TO ONE MILL AND SCATTERED HAND LOOMS—CAUSES OF PRESENT CONDITIONS.

Cotton manufacturing is not a very promising industry in Egypt. There is only one cotton mill in the country, which in this respect is behind all other cotton-raising countries, where the tendency is for the cotton mills to go to the cotton fields. The sole representative in Egypt of the world's greatest industry is the Anglo-Egyptian Spinning and Weaving Company (Limited), which has 20,000 spindles and 500 looms, and is located at Alexandria.

Until the first of this year there were two cotton mills in Egypt, but the other one, The Egyptian Cotton Mills (Limited), of Cairo, has ceased operations, and the machinery has been sold and will be shipped to Mersine, near Tarsus, in Asia Minor, where it will be run on coarse counts using local cotton. This mill operated 20,000 spindles and 360 looms. In the early part of the nineteenth century, before the present variety of Egyptian cotton had been evolved, there were several small cotton mills started in Egypt. These did not have much success and soon disappeared. In the last years of the nineteenth century more determined efforts were made to bring the cotton mills to the cotton fields of Egypt, but once again there has been failure, so that now only one mill survives.

HANDICAPS TO COTTON MANUFACTURING.

One adverse factor is that the English Government, while very friendly to cotton raising in her possessions and countries where her influence is paramount, is unfriendly to cotton manufacturing in those lands. Local cotton factories would, other things being equal, have quite an advantage over Lancashire by having no freight and no duty to pay. To counterbalance this, the English Government, through the influence of Lancashire, placed an excise tax, equal to the duty, on the production of all cotton mills in such countries. The Indian mills therefore pay $3\frac{1}{2}$ per cent excise tax on all goods manufactured, but the Egyptian handicap is much greater, as the duty is 8 per cent, and an equivalent special tax is a great drawback to cotton manufacturing.

The insufficiency of efficient help available, however, has probably had the largest effect in retarding the industry, together with the fact that the first cost of the machinery and the supplies are much higher than in England. The climate also is unsuitable for cotton manufacturing. The wages paid are much higher than in India, while the workers are but little if any more efficient. It takes two or three operatives to do the work of one English operative. The native Egyptians do not seem to take to the steady indoor work of a cotton mill and labor has to be obtained among other nationalities to fill out, and some have to be imported at quite an expense to the mill. In the one cotton mill remaining, that at Alexandria, there is probably

as much diversity of peoples and languages represented as in any mill in the world. There are Egyptians (Copts), Arabs, Turks, Syrians, Russians, French, Italians, Moors, etc., the manager saying that his pay roll showed 17 languages spoken among the 600 operatives.

DESCRIPTION OF THE EXISTING MILL—CLASSES OF OUTPUT.

This mill is situated on a canal on the outskirts of Alexandria and is a one-story brick building. The weave shed has a saw-tooth roof and cement floor. The humidity is regulated by large tapering tin pipes conveying steam into the room through outlets at various points. Belting is little used, as rope driving is employed not only for the main drive and for counters, but also for the direct drive to the spinning frames. The spinning frames are placed according to the usual English practice across the mill, so that the light shines down the aisles between the frames, and the driven pulleys are all in the middle alley down the length of the room. The two lines of shafting run down the sides of the room, and long quarter-turn drives convey the power to the driven pulleys of the spinning frames. In the case of such long quarter-turn drives the manager stated that he preferred the ropes where he had a good rope splicer, but that if such an operative was lacking they were a source of much annoyance.

This mill both dyes and bleaches. Raw stock dyeing is not used, all dyeing being on the cop. The quality of the bleaching is very good, being aided by the fact that Egyptian cotton is specially adapted to bleaching, both the brown Mit Afifi and the whiter Yannovitch giving beautiful results.

Both yarn and cloth are made for sale, the largest part of the output being coarse goods. Ring frames are used and the average number spun is under 20s, but there is also a small production of white shirting, jaconets, and sateens made from about 50s yarn, for which the Yannovitch cotton is used. The goods made are mostly coarse gray sheetings, tanjibs, drills, shirtings, and colored stripes for the Arabs. These latter are stiffly back starched and run through steam calendar rolls to give the hard, brilliant finish preferred by the Arabs. The weaving embraces quite a variety of cloths from the coarsest two-harness goods 10 by 10 ends per quarter inch and 12s yarn to sateen goods made on dobbies from 50s yarn, and including colored goods made from either one or two warp beams. The looms are made for cloths from 24 to 40 inches, and there are a few dobbies. The main gray goods are 17 by 13, 13 by 13, and 14 by 12 constructions. It is interesting to note that this mill makes an imitation American sheeting that it labels "Cabot" after the well-known American mill brand of that name. This is 13 by 13, 32-inch, 24-yard goods, though the name is also put on a still coarser grade. The weavers run one to three looms, mostly one or two, and the prices paid vary according to the cloth. On heavy sheeting 14 by 12 construction the price is 9 milliemes, say 4½ cents, per 24-yard cut.

YARN AND CLOTH EXPORTS.

The yarns are bunched in a bundling press as usual into 10-pound packages, paper covered, and then put up into 50-bundle, 500-pound bales. About one-third of the yarn output is sent to Turkey and the remainder used by Egyptian handloom weavers. On the lower counts this yarn has to stand competition with cheap yarn from India,

while the English yarns practically monopolize the high-count trade. For this reason part of the yarn is exported to countries needing yarn cheaper than the fine English and of better grade than the coarse Indian. The total yarn exported is small, however, as the following table for Egypt's yarn export in 1906 shows:

Country.	Pounds.	Value.
Turkey	363,029	\$61,743
England	102,114	15,131
Austria-Hungary	2,416	400
Total.....	467,559	77,274

There was also exported some cloth, mainly to Turkey, but as there is mixed with this a small quantity of cloth reexported it is impossible to say exactly what proportion is Egyptian made, or how much is mill cloth and how much handmade. The cloth exported from Egypt in 1906 was as follows:

Country.	Pounds.	Value.	Country.	Pounds.	Value.
Turkey	277,168	\$72,104	Greece	1,085	\$316
Italy	38,962	7,073	Other countries.....	7,001	1,834
French Mediterranean pos- sessions	28,458	7,390	Total.....	371,708	91,707
Germany	19,084	2,990			

The trade-mark of this mill is a rectangle 5 inches by 8 inches inclosing two pyramids and four palm trees, with a crocodile in the foreground.

WAGES PAID AND COTTON USED.

English machinery is used throughout. The wages paid are high as compared with Indian mills and are steadily advancing from year to year. Men start in at 6 piasters (say 30 cents) and soon get 8 to 9 piasters (40 to 45 cents) a day and over. Women and men work together and some young children are employed, both boys and girls. Spinners are paid by the day, in fact reelers and weavers are about the only hands on a piecework system. A girl running two sides of warp gets about 25 cents, but on fine weft may get as much as 50 cents. The spinners run from a half to two long sides. This Alexandria mill uses some 18,000 cantars (cantar=99.05 pounds) of cotton a year, which corresponds to some 2,500 bales, but a good portion is received in the loosely bound uncompressed bales from the gins. The majority of this of course is the Mit Afifi variety, which forms the bulk of the Egyptian crop, but a smaller amount of Yannovitch is also used for the finer goods. The percentage of waste is figured at 25. This is nearly all sold and exported except the oily waste, which is cleaned and reworked.

The working hours are from 6 a. m. to 6.10 p. m. Hands are relieved in batches for ten minutes for breakfast and the mill stops an hour for dinner at noon, so that the operating time is only eleven hours a day.

OPERATION OF HAND LOOMS.

There was imported into Egypt in 1906 2,506,199 kilograms, say, 5,526,170 pounds, of cotton yarn, of a value of £198,106, which is about \$979,238. This yarn, as also a part of the production of the two

cotton mills that have been operating in Egypt and a small amount of hand-spun yarn, was consumed by Egyptian hand looms. There are no figures available as to these, but those best informed as to the industry say the number of hand looms must be something over 20,000. Some of these are very primitive, being of the old "throw-shuttle" type, where the shuttle is thrown through the shed with one hand and caught with the other. Other looms, however, are of improved European make, and production on these is claimed to be not much inferior to that obtained by the average weaver in the Egyptian cotton mill. One cotton-mill manager said that he had timed some of the best hand-loom weavers at Zagazig, where there are some 2,000 hand looms, and found them making 160 picks a minute. I did not find any as fast as that, but the speed attained on these improved hand looms is, of course, much higher than that possible on the best types even of the crude native-made looms. Some of the looms turn out as much as 48 yards a day on coarse cloths. Some weavers make very fine goods, but the majority of the goods turned out are the cheapest, coarsest varieties of sheetings and tanjibs.

EXPORTS OF COTTON GOODS TO EGYPT.

DECREASE IN PLAIN AND INCREASE IN COLORED PIECE GOODS.

According to official returns, the exports of cotton piece goods and yarns from the United Kingdom to Egypt during the ~~calendar~~ years 1906 and 1907, as compiled by the Bureau of Manufactures, were as follows:

Description.	Quantity.		Value.		Price, in cents.	
	1906.	1907.	1906.	1907.	1906.	1907.
Piece goods:						
Unbleached.....	Yards.	Yards.			Per yard.	Per yard.
99,751,300	99,751,300	76,740,400	\$3,838,530	\$2,914,454	3.85	3.80
Bleached.....	111,756,700	92,931,500	5,907,312	5,029,785	5.29	5.41
Printed.....	54,896,800	59,796,700	3,728,727	4,225,942	6.80	7.07
Dyed or of dyed yarn.....	30,798,800	36,258,900	2,108,730	2,710,315	6.85	7.47
Total and average.....	297,203,600	265,727,500	15,583,299	14,880,496	5.24	5.60
Yarns:	Pounds.	Pounds.			Per pound.	Per pound.
Gray.....	2,354,100	1,998,600	417,799	394,702	17.75	19.85
Bleached and dyed.....	1,160,600	993,100	254,571	245,164	21.93	24.69
Total and average.....	3,514,700	2,981,700	672,370	639,866	19.13	21.46

AMERICAN TEXTILES IN EGYPT.

In a report from Consul-General L. M. Iddings, of Cairo, published in the Daily Consular and Trade Reports for November 1, 1907, the total value of all classes of textiles imported into Egypt in 1905 and 1906 is given as \$30,264,245 and \$30,504,175, respectively, of which the imports from the United States were as follows:

Articles.	1905.	1906.	Articles	1905.	1906.
Cotton goods.....	\$820	\$120	Clothing.....	\$430	\$550
Sail cloth.....	1,975	3,375	Sundries.....	12,340	50
Linoleum.....	1,145	1,020	Total.....	16,780	5,365
Linen goods.....	75	250			

GREECE

COMMERCIAL IMPORTANCE.

AN ATTRACTIVE MARKET FOR TEXTILES.

STEADY GROWTH IN SALES OF COTTON GOODS—ADVANTAGES OFFERED AMERICAN MANUFACTURERS.

Greece is an isolated country of 25,941 square miles that supports a population of some 2,500,000 people and has a foreign trade of about \$40,000,000 a year. It has no railroad connection with any other country, and being cut off from the rest of Europe by the mountains of Turkish Macedonia on the north, all commerce is by sea. The principal ports are Piræus (the port for Athens), Patras, and Volo on the mainland and the island ports of Syra and Corfu. The Greeks probably number, all told, 8,000,000, of whom about 4,000,000 are in Turkey.

Among the smaller countries of the Levant Greece should be noted by our cotton manufacturers as one affording an outlet for a small but steady volume of goods. The trade in this line is increasing very slowly, but fluctuates little. By the direct steamship lines recently established goods can be landed at Piræus quicker from New York than from Liverpool, and at equal or less freight rates; so the market is now readily accessible. Greece imports annually about \$400,000 worth of cotton, \$300,000 worth of cotton yarn, and \$2,000,000 worth of cotton cloth. The trade of the country in these, as well as in most other lines, is dominated by Great Britain.

BUSINESS METHODS—EMIGRATION HELPFUL TO AMERICAN TRADE.

In doing business with Greece correspondence, catalogues, etc., should preferably be in French. French is taught in all the schools, while English is comparatively little known. Three months' time is essential on most goods. In giving credit careful inquiry should be made in this country; but there are many reliable firms. The custom of credit is universal. On very few lines could a business be built up here on the "cash against documents" system and on none on the "payment in advance" system. The importers give long time to the smaller dealers to whom they sell, and demand time themselves to help them carry the business, and as they can always get time from one or another of the nations competing in their particular lines America will have to pay heed to the custom. The drawback to the Grecian trade is that the country is small in area and the imports almost on a retail basis, there being few merchants able to pay cash for goods before arrival and finance themselves until the returns finally come in from their six months' sales to customers. The smallness of the trade in some lines is shown by the fact that in all of

Greece there are less than 100 typewriters. While small as compared with many markets, the trade of Greece is worth cultivating, especially since the new direct steamship lines have placed the United States on a competing basis with the European nations. The Italians and Germans seem, as a rule, to give longer credits than the English, up to six months or over. Three months' time seems essential to gain any footing in this trade, but longer than that is not advisable, as a firm whose financial standing is strong enough to justify longer time would be strong enough not to need it.

One factor that should aid considerably in building up American trade with Greece is the emigration from that country to the United States. The number of Greeks so emigrating has been usually about 10,000 annually, but the new lines have greatly stimulated this; for 1906 it was 27,000, and for 1907 it will be much greater.^a There are so many American flags flying from the flagpoles of emigration agencies at Piraeus that one landing from the ship might be excused for imagining it the national flag. These Greek emigrants raise money in various ways to purchase their passage and soon begin sending back remittances to pay the debts thus incurred. Others send back money to their families or relations. It is estimated that the yearly total sent from the United States to Greece amounts to at least 40,000,000 francs (\$7,720,000), and it is on the increase. Many accumulate money and return, and each one who does so tends to familiarize the people with American goods and to create a demand for American manufactures.

COTTON INDUSTRY—LOCAL MILLS AND THEIR PRODUCTS.

The cotton manufacturing industry in Greece dates from 1870, when a spinning mill was erected at Piraeus, and the industry has, in spite of many ups and downs, and though still very small, contributed considerably toward the upbuilding of the country.

There are no accurate statistics in regard to the industry. One of the largest cotton brokers of Piraeus, who is in a position to be well informed, gives the number of mills, large and small, at 23, distributed as follows:

Location.	Spinning.	Weaving.	Location.	Spinning.	Weaving.
Piraeus.....	5	4	Chalkis.....	1	.....
Patras.....	3	.....	Volo.....	1	.....
Syra.....	3	2			
Livadia.....	4	.....	Total.....	17	6

The total number of spindles is estimated at 99,300 and the number of looms at 1,205, employing about 5,000 operatives. The total production is figured out at 3,600,000 skeins of yarn and 8,561,000 meters of cloth (meter=39.37 inches), 941,787 kilos in weight (kilo=2.2 pounds). Three-fourths of the industry is concentrated at Piraeus. Practically all machinery is English. The mills usually run an

^a The statistics given in the report of the Commissioner-General of Immigration for 1907 show that 19,489 immigrants came to the United States from Greece during the fiscal year ended June 30, 1906, while the number arriving for the twelve months ended June 30, 1907, was 36,580.—B. of M.

eleven-hour day and the operatives, of whom the majority are women and girls, get from one-half to 2 or even 4 drachmas a day (5.45 drachmas=\$1), averaging probably about $1\frac{1}{2}$ drachmas, or $27\frac{1}{2}$ cents, a day.

CHANGING CLOTHING CUSTOMS—FLUCTUATING CURRENCY.

The mills make sheetings, coarse cottonades, plaids, ginghams, cotton trouserings, and checks and stripes of various kinds. The coarse cottonades, overall cloth, etc., are worn by the peasant classes, and in these lines the native mills supply the market cheaper than can be done by foreign nations, the tariff being especially adapted to aid this. The mountain regiments of the Greek army and the people in the more remote parts of the country still wear the old Greek costumes, but the bulk of the people wear ordinary European attire, and what is sometimes supposed to be the Greek national costume is becoming a thing of the past. The peasant women, for instance, are continually bringing in their old costumes, elaborately wrought with needlework, which they sell for a small price and purchase cheap Manchester calicos.

The largest cotton manufacturing company is that of Retzina Brothers, of Piræus, who have three mills, one making yarn only, one making "American cloth" (sheetings) only, and one, using skein dyeing, making colored goods of various kinds. The three mills of this company contain 30,000 spindles and 400 looms. Five years ago the Greek textile industry was very prosperous and cotton goods were exported to Crete, Turkey, and other near-by countries. At that time it took 8.35 to 8.50 paper drachmas to equal an American dollar, but now it takes only 5.45. As the Greek exports were paid for abroad in gold and converted at home into paper drachmas to pay for cotton and wages, this rising value of the drachma has been to the disadvantage of manufacturers and has closed to them all outside markets. Only the tariff enables them to retain their hold on the home market in coarser cloths. The industry has experienced a good many obstacles, and fortunes have been lost in it, but it is to-day fairly prosperous. There are a few hand looms scattered throughout Greece, which make mostly sailcloth and coarse wearing apparel.

GROWTH AND CONSUMPTION OF COTTON.

About one-half of the cotton used in the home mills is raised in Greece and the other half is imported, the total being some 20,000 bales only. The Grecian cotton is better than that from Asia Minor, is clean, and five-eighths to seven-eighths inch staple. It is harsher than American, and the staple runs much more uneven. There are no figures available as to the outturn, but the largest cotton dealer at Piræus estimates the average crop at 2,000,000 okes, which is about 5,640,000 pounds. A small amount is used by hand workers, but the bulk of the crop goes to the cotton mills. American ginning machinery is preferred to the English. The cotton is put up in large sacks or loosely packed bales. The cotton-growing section centers around Livadia, in Boeotia, where a large lake bottom has been reclaimed by an English company.

The cotton imported into Greece is divided by the customs returns into Turkish and Indian, American, and Egyptian. The imports for the last five years are given as follows:

Year.	Turkish and Indian.		American.		Egyptian.		Total imported.	
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.
1902	1,606,114	\$126,410	1,145,718	\$114,258	592,121	\$66,866	3,343,953	\$307,534
1903	1,890,613	149,024	1,136,009	112,735	178,348	20,120	3,204,370	281,879
1904	2,280,675	187,372	1,086,667	107,888	657,545	74,253	4,024,887	369,463
1905	2,496,797	196,612	1,741,356	172,808	417,182	47,111	4,655,335	416,431
1906	2,685,503	217,251	2,025,513	191,492	347,768	37,785	5,058,784	446,628

COMPLAINTS REGARDING AMERICAN COTTON.

The cotton shown as Turkish and Indian is nearly all Turkish, being imported from the two Asia Minor ports of Smyrna and Mersina, and mostly raised in the section around Adana. About 400 bales of Indian cotton were imported last season. It was very dirty, and the mills found difficulty in mixing and working it satisfactorily with the other cottons, and will hardly import any more. The American cotton is preferred, but the manufacturers complain, in regard to shipments from America, that some bales are falsely packed, some have sand, and one manufacturer reports a recent shipment which turned out to be entirely sweepings. In this latter case the American cotton broker declined to replace with cotton as ordered, but offered to make an allowance for the deficiency. As the mill can not work sweepings, the matter had to be settled by arbitration. Some of the importers claim they have to order through London simply for this reason, though the freight rate from Liverpool is 32s. 6d., as compared with 30s. per ton from New York direct. The freight rate from New Orleans to Piraeus, on account of transshipments, is excessive, being 52 cents a hundred pounds.

Local cotton is sold by the oke of 2.82 pounds, the present price being 1.8 drachmas per oke, which is about 11.7 cents a pound. The American grades imported are mostly good middling and fully good middling, the latter being now (October, 1907) quoted, landed at Piraeus, at 7.5d. (15 cents) a pound, the middling price corresponding being 6.82d. a pound. One of the largest importers of American cotton [name on file at Bureau of Manufactures] desires to form a connection with an American cotton manufacturer or commission house to handle American piece goods on a commission basis.

TRADE IN COTTON YARN AND THREAD.

Of the cotton yarns imported into Greece about 75 per cent is from England, 15 per cent from Italy, and 5 per cent each from Germany and Austria, with occasional contributions from France, Switzerland, and Turkey. On most lines the Grecian importers demand time, but, being able to control the yarn market, the English, on this item, usually insist on cash against documents. The Italian competition is keen on certain lines, but they can not compete on the high-grade counts.

The bulk of the imports is coarse, unbleached yarns, mostly 8s, 10s, 12s, 16s, and 20s. A good part of this is dyed locally before use. The price of yarn seems to be lower than would allow of competition

from America. On sewing thread the market is controlled by the English. America does not seem to compete, but the Germans are making efforts to increase their present small sales. The imports of yarn and sewing thread for the past two years are given in detail as follows:

Description.	1905.		1906.	
	Pounds.	Value.	Pounds.	Value.
Unbleached:				
Under No. 24.....	1,807,476	\$241,221	1,149,742	\$153,441
Above No. 24.....	31,807	5,768	40,186	7,290
Bleached:				
Under No. 24.....	44,928	6,150	26,601	3,750
Above No. 24.....	13,251	2,721	13,231	2,717
Colored:				
Under No. 24.....	14,791	2,682	15,786	3,224
Above No. 24.....	10,998	2,258	4,072	819
Oil dyed, all numbers.....	41,674	6,978	40,250	10,467
Gray twist:				
Under No. 24.....	23,011	4,724	58,552	12,022
Above No. 24.....	3,232	774	21,776	5,216
Colored twist:				
Under No. 24.....			1,196	327
Above No. 24.....	1,328	409		
Oil-dyed twist.....	31,590	6,950	26,313	9,004
Sewing thread.....	308,232	55,896	320,724	53,059
Total.....	2,332,818	336,531	1,718,429	261,336

COTTON PIECE GOODS.

The cotton goods imported into Greece are prints, white shirtings, T cloths, oxfords, cotton flannels, and colored linings. The trade is monopolized by England, which exports about 70 per cent of the total, Germany about 15 per cent, and Austria, Italy, and France each about 5 per cent. Holland, Belgium, and other countries export small quantities, and at the bottom of the list there is a few hundred dollars' worth from the United States.

In gray goods England has a complete monopoly, for the reason that the gray goods imported are mainly gray shirtings and T cloths, two articles in which England supplies the world, while coarser sheetings, drills, etc., are very little imported, being made by the local mills. In bleached goods England supplies over 90 per cent, with a few coming from Germany, Austria, and Italy. In prints and colored goods in general England supplies the bulk of the trade and is followed by Germany, France, Austria, and Italy. In dyed drills and similar goods, and in trouserings, cottonades, and other coarse goods of dyed yarn the first place is held by Germany, followed by England, Italy, and Austria. Colored cotton linings are supplied by England, with some from Italy and Germany.

Batistes come from England, Austria, and Germany; muslins and tulles from England; laces from Germany and England; and grenadines from Italy. Head handkerchiefs come from England; velvets from England, France, and Germany; cretonnes from England, France, and Italy; satins from England; piques from England; and cotton flannels from England, Germany, and Italy. Braids, tapes, and similar goods are supplied by Italy; ribbons, etc., come from England and Germany. Socks are furnished by Germany and Austria; underwear by Austria, England, and Germany; and ready-made clothes by England.

DETAILED COTTON GOODS IMPORTS.

The following list shows in detail the cotton goods imported into Greece in 1905-6.

Description.	1905.		1906.	
	Pounds.	Value.	Pounds.	Value.
Unbleached cloths:				
36 threads ^a	1,312,521	\$212,702	1,435,166	\$240,844
44 threads ^a	78,478	16,113	11,379	2,386
56 threads ^a	7,072	1,694	6,799	1,629
Bleached goods	1,103,088	341,992	1,065,447	329,670
Printed and colored goods, not specially mentioned	1,845,109	631,336	1,885,872	645,342
Colored cottons, such as colored drills and stripes, twills, checks, and similar goods for use of laborers.	356,950	195,436	294,361	161,173
Colored linings	401,384	139,748	391,450	133,958
Wicks, etc.	14,136	2,128	15,755	2,372
Boot straps	8,333	855	5,934	586
Cotton belting	7,262	3,876	12,591	6,721
Batistes	10,504	20,130	11,438	21,919
Gauzes	1,985	3,804	14,664	28,101
Muslins	87	168	178	340
Grenadines	524	1,005	20	38
Tulles	1,926	3,691	2,335	4,475
Laces	11,630	22,286	10,112	19,379
Head scarves	1,009	2,764	505	1,222
Cotton linens	89,963	92,356	87,287	89,609
Made-up goods, except ready-made clothing	6,551	6,740	9,303	9,551
Velvets	51,493	28,198	58,238	32,823
Cretonnes	56,231	30,787	61,030	33,415
Satin	51,284	27,693	65,624	35,990
Piques	23,671	12,960	37,731	20,659
Garters, ribbons, edgings, Spanish and Indian muslin above 75 threads	103,184	76,458	137,585	65,914
Head handkerchiefs	2,783	3,829	3,743	4,610
Socks	88,369	21,991	49,564	27,137
Remnants, except madapolam	13,699	8,488	12,101	7,448
Cords and braids	22,504	10,781	21,192	10,153
Cotton flannels, white or colored	199,363	65,493	231,040	75,885
Toillé à voilé	32,670	4,919	30,346	5,871
Ready-made clothes:				
Men and boys'		9	141	12
Women and girls'	186	453	1,810	4,279
Total		1,990,323		2,022,896

^a Contained in a square of 5 millimeters side [millimeter = 0.03937 inch].

The Greek Government issues quarterly reports detailing the exports and imports, and also a final yearly report. This latter, possibly due to corrections, rarely, if ever, gives totals exactly corresponding to those of the four quarterly statements. The annual statement does not come out for a year after, so the 1906 figures I give are those obtained by adding up the quarterly statements and then converting to pounds and dollars. The yearly report when issued will probably give figures slightly different, but not materially so. The Greek custom-house returns are not kept very accurately, but their figures are valuable as showing the general trend of the trade in different lines.

The foregoing figures for the past two years show not only about the same amount of goods taken each year, but almost exactly the same amount of each kind of cloth. This remarkable uniformity in the consumption of each kind of cloth has existed for some time, with a slight upward tendency.

PRINT GOODS PREFERENCES—STYLES OF WHITE SHIRTING DESIRED.

Prints of various kinds probably constitute the largest single import item. Shirting prints constitute the bulk of this, though there are also good amounts of printed muslins, flannelets, etc. The shirt print needed is wider and of finer construction than the standard

American print, the demand being for a 31 to 32 inch wide print of about 17 by 18 or finer construction. The poorer classes wear coarse cottonades, checks, stripes, etc., made in Greece from lower-grade cotton, and the consumption of prints is more by the better classes, so the result is a demand for a good quality in this line. The majority of the prints are also more stiffly starched than the American, though very heavy sizing is not favored.

White shirting is probably the next largest cloth import and is employed for all kinds of dress and household use from bed sheets to the short fustanella skirts, resembling those of ballet dancers, worn by the Efzones and other highland regiments in the Greek army. The English makes of white shirting that have the greatest reputation here bear the trade-marks of "Croydon" and "Horrockses." The widths imported run from 31 to 88 inches, and the finish varies from the pure sized to a stiff finish with over 50 per cent sizing. The white shirtings in largest use on the Athenian market are as follows:

(a) A white shirting of the Croydon make, $31\frac{1}{2}$ inches wide, 18 square per quarter inch, that comes in 24 and 38 yard lengths, and is retailing in Athens at 50 lepta a pic, which is about 13.9 cents a yard.

(b) A white shirting stamped "Cambrick Français, British Mfg., Helen CBA," that has a cambric finish, is $32\frac{1}{2}$ inches wide, 20 square, and retails for 55 lepta a pic, or 15.3 cents a yard.

(c) A white shirting, same price as (b), but $34\frac{1}{2}$ inches wide, 18 by 17, and has somewhat coarser yarns.

(d) A fine-finish white shirting, $35\frac{1}{2}$ inches wide, 20 by 19, that retails at 65 lepta a pic, or 18 cents a yard.

(e) A longcloth with the brand of Horrockses, Miller & Co., $36\frac{1}{2}$ inches wide, 25 by 22, that retails at 85 lepta (16.4 cents) a yard.

(f) White shirting for bed sheets. This is mostly 16 square and comes in five widths, 48, 66, 72, 84, and 90 inches. The 72-inch width retails at 2 drachmas a pic, or, say, 55 cents a yard, and the others in proportion.

LARGE IMPORTATIONS OF GRAY GOODS.

T cloth is largely imported and is used for many purposes—for clothing and household use, for light bags, for spreading over raisins while drying, etc. Gray shirting is also a large import, and the two constitute the bulk of the import of gray goods. There is very little sheeting or drills imported, as the little demand for these is supplied by the local mills. Occasionally one sees in a shop a few pieces of "Lyman" or other American sheetings, but the total is trifling, and there is no opening here in that line. The gray shirtings are the well-known English makes, and mostly $38\frac{1}{2}$ inches wide and 39 yards long. Usually for gray shirting a head end is made with a few picks of coarser yarn, but colored head ends are also used here, a solid green heading about 1 inch wide being perhaps the most common. The T cloths are always made 24 yards long, and the standard width is 32 inches, but this market uses also narrower widths down to 29 inches. T cloth always has a colored heading and the width and color of the heading is varied to suit the importing merchant. Green seems to be the color most used for the headings as imported into Greece, a common heading being about one-eighth inch red filling, $1\frac{1}{2}$ green, and then one-eighth inch red, making up a 2-inch heading. The constructions used for the T cloths are mostly 16 and 18 square,

and the weights 7 and $7\frac{1}{2}$ pounds to the 24-yard piece, but some heavier grades are used in smaller quantities. The 30-inch, 16 square, is now retailing at 14 drachmas a piece, say 11½ cents a yard, and the 32-inch, 18 square, at 16 drachmas a piece, say 12.9 cents per yard.

Consular reports from Greece have made reference to a "Howell" cloth. This is a T cloth called after one of the most popular makes. In the same way the buyer here often calls for "Croydon" or "Horrockses" cloth, meaning the brand of white shirting. In Turkey the import list does not specify "sheetings," but calls all sheetings "Cabots."

DRILLS, FLANNELS, AND WORSTEDS.

A fair amount of white drills are imported for summer suits and other purposes. These are mainly the 28-inch, 20 by 17, goods, retailing at a drachma a pic, or about 27.8 cents per yard. Cotton flannel is proportionately a fairly large import, though it is only about \$75,000 a year. England supplies the best qualities and Germany the cheaper, but Italy, with her cheaper freight and longer terms, is making efforts to control trade in this line. Cotton worsteds are imported from Germany, usually in about 48-inch double widths, and have a good sale. Hollands are imported in large quantities. The retailers here call almost any light-weight colored goods "Hollands," whether striped only or whether checked or of a solid pattern. Coarse colored cottons, such as cottonades and cotton trouserings, checks, and stripes, ginghams, etc., are made by the local mills, but the lighter goods, made of dyed yarn and generally lumped as "Hollands" by the merchants, are nearly all imported, mainly from Germany and England.

Cloth is sold by the drachma per pic. The "pic" as used in Asia Minor is 27 inches, but in Greece the pic used for cloth measure is considered to be 64 centimeters, which is about 25 inches.

GREEK TEXTILE TARIFF.

The Grecian textile tariff is not levied ad valorem, but on both cotton yarn and cotton cloth is based a unit of weight of 100 okes, which is equal to 282 pounds. The duty is levied in gold francs. Greece is one of the countries in the Latin Union, which includes France, Belgium, Spain, Italy, and Switzerland. Latin Union countries recognize a coin of the value of the French franc, equal to 19.3 cents, as standard. The United States pays the conventional tariff. The present tariff on textiles is as follows (in gold francs):

Description.	General tariff.		Conventional tariff.	
	Francs.	Free.	Francs.	Free.
Cotton				
Wadding		per 100 okes.		
Cotton yarn: ^a				
Under No. 24		do . . .	60	50
Above No. 24		do . . .	80	60
Bleached yarn: ^a				
Under No. 24		do . . .	66	
Above No. 24		do . . .	88	66

^a For twisted yarns add 20 per cent to each subdivision of soft yarn. This does not apply to conventional tariff countries.

Description.	General tariff.		Conventional tariff.	
	Francs.	Francs.	Francs.	Francs.
Colored yarn: ^a				
Under No. 24	per 100 okes.	80	.....	.....
Above No. 24	do.....	104	80	
Oil-dyed yarn, all numbers ^a	do.....	150	.....
Sewing thread.....	do.....	250	150	
Gray goods:				
36 threads ^b	do.....	80	70	
44 threads ^b	do.....	96	80	
56 threads ^b	do.....	112	80	
Bleached goods.....	do.....	200	100	
Colored and printed goods, not specially mentioned	do.....	300	120	
Colored goods, such as drills, stripes, and checks, for use of laborers	do.....	174	.....
Colored linings.....	do.....	300	120	
Lampwicks and boot tags	do.....	100	.....
Cotton belting		Free.	Free.	
Batistes, gauzes, muslins, and similar diaphanous goods	per oke.	6	.....
Linen and embroidered articles	do.....	6	3	
Felts, crottones, satins, and piques	do.....	3	2	
Garters, ribbons, edgings, and Indian and Spanish muslins above 56 threads, head handkerchiefs, socks, and remnants	per oke.	5	3	
Cords, braids, etc. (if wool is not mixed in to increase value more than 30 per cent)	per oke.	5	3	
Cotton flannel, bleached or unbleached	per 100 okes.	120	.....
Sail cloth	do.....	20	.....
Ready-made clothes:				
For men and boys, add to the regular duty on the cloth .....	.....	c 50	c 40	
For women and children	per oke.	25	15	

^a For twisted yarns add 20 per cent to each subdivision of soft yarn. This does not apply to conventional tariff countries.

^b Contained in a square of 5 millimeters side [millimeter=0.03937 inch].

^c Per cent.

It is seen that on the light cloths and on women's ready-made clothing the duty is based on the oke, but on all others on the 100 okes. The duty runs from 3.4 cents to 13.85 cents a pound on cotton yarn, and from 4.79 cents to 41 cents a pound on cotton cloths. The duty on cotton seed and cotton-seed oil is 20 francs for 100 okes of 282 pounds.

Besides the duty, all goods entering Greece have to pay port dues and octroi taxes. The port dues at Piraeus are based on the duty, being one-twentieth of the duty. The octroi or town tax on all merchandise entering Athens is levied at the rate of 2 per cent of the value.

DIRECT STEAMSHIP LINES.

In many parts of the world American commerce is hampered by the fact that there are no direct steamship lines. It should be emphasized that there is no such drawback in regard to Greece, and that this market is now more accessible to New York than to Liverpool. From Liverpool freight is delayed by the steamships touching at several intermediate points or by transshipment at Naples or Trieste; therefore English freight takes from twenty to thirty days to reach Greece, as compared with eighteen days from the United States by the direct lines. The freight rate is also as low or lower from New York as from Liverpool. On cotton, for instance, the present (October, 1907) rate per ton is 30s. from New York and 32s. 6d. from Liverpool. The rate from New Orleans is still very high—about 40s. for cotton—but the Austro-American line is about starting a direct service there also, a monthly service being contemplated, so this rate will also shortly be lowered.

There are now four direct lines between the United States and Greece, as follows:

(1) The Trans-Atlantic Steamship Company, known usually as the *Moraities Line*. This line has but one steamship, but another is shortly to be added. It has a sailing about every fifty days and takes only eighteen days from port to port.

(2) The Austro-American Line. This is an Austrian line and has three to four departures a month from Patras, Greece. Hereafter about one boat a month will also be sent direct to New Orleans.

(3) The Prince Line (English) operates two steamships on the American-Greece direct route, and its sailings depend on cargo—usually about six departures a year.

(4) The Fabre Line (French) operates three boats, making irregular trips, depending on cargo available, but having five to six departures a year.

Formerly steamship connections with the United States were very bad, nearly all freight was transshipped at one or more intermediate ports, the time was two months, and freight rates prohibitive. The new direct lines—especially the establishment of the Moraities Line—has put American goods on a competing basis in Greece, a fact which should be taken advantage of by American manufacturers. The growth of this line will materially aid American commerce, for the reason that it not only runs direct to Piræus, but it also goes on to Smyrna, giving New York the long-desired direct connection with Asia Minor. From Smyrna the route leads back to Piræus and then direct to New York. At present these lines depend for their profits on the Greek emigrants, but if American shippers can fill the ships for the return trip freight rates will be further lowered and shipping facilities increased.

ITALY

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GROWTH OF MANUFACTURES.

IMPORTANCE OF COTTON GOODS INDUSTRY.

DECREASED IMPORTS AND INCREASED FOREIGN SALES—LOCATION AND METHODS OF THE MILLS.

Since 1902 the industries and manufactures in Italy have taken long strides forward, and to-day northern Italy has become one of the most modern manufacturing centers of Europe. The suddenness of the advance is instanced by the fact that of the 111 firms now manufacturing automobiles and parts in Italy not one was operating under its present name in 1904, and the greater number are entirely new. The extent of the advance is evidenced by the fact that there is now more water power developed in Italy than in any country of the world, with the exception of the United States.

Silk is the most important industry of Italy, employing some 300,000 people, supplying one-fifth of the world's requirements, and Milan has succeeded Lyon as the world's largest silk center. The majority of the silk, however, is exported in only a partially manufactured form.

The greatest article of manufacture in Italy is cotton, and the product of the cotton mills forms by far the largest item in the list of manufactured goods exported. The progress of the cotton-manufacturing industry has been remarkable. Formerly Italy imported all its clothing, mainly from England, with the exception of a small portion manufactured on the hand looms in the cottages. About 1887 the present development began to get under way, and in the last twenty years it has gained steadily.

At first only yarns were made for the hand-weaving industry, but later cloth of coarse kinds, and then finer goods of more variety were successfully started. As the manufacture of cotton goods increased, the imports of foreign manufactures steadily decreased, and to-day Italy supplies all its home requirements of cotton manufactures, with the exception of a few special qualities not consumed in large enough bulk to make their manufacture profitable, and it has also sent out its yarns and cloth in successful competition with England, Germany, and the United States to various parts of the world, particularly to Argentina, Turkey, Egypt, and India.

For the last twenty years (comparing the average of the years 1886-1890 with the figures for 1906) the consumption of cotton increased from 145,011,298 to 384,410,660 pounds; the imports of cotton yarn have declined from 9,274,212 to 1,821,724 pounds; the exports of yarn have increased from 682,358 to 22,877,300 pounds; the imports of cotton goods have declined from 22,736,684 to 8,038,208 pounds; while the exports of cotton goods have increased from 1,429,514 to 61,744,840 pounds.

SPINNING SPINDLES AND POWER LOOMS.

To get exact figures in regard to the extent of the Italian cotton industry is impossible, Government figures being misleading, for the reason that cotton manufacturers are taxed on their output up to 20 per cent or more of their receipts, and in order to do business under such circumstances the manufacturers claim that it is impossible to give exact returns. Therefore figures published by the Government in regard to this and other manufacturing industries are really only approximations, and necessarily underestimates. The latest figures published by the Government are contained in the *Statistica Industriale*, published in 1906, but which contains figures up to 1903 only. For 1903 they show 1,693,863 spinning spindles, 240,090 twister spindles, 60,325 power looms, 4,568 Jacquard looms, operated by 138,880 workmen and using 86,992 horsepower. The cotton-mill men say that these figures, which were those given for taxation, are really at least 50 per cent underestimated even for that period. This also is proved by the fact that the Government returns for 1900 were 1,879,129 spindles, 232,041 twisters, and 60,722 looms, or actually more than shown three years later, which is impossible in the face of the customs returns showing the increase of cotton and of cotton-mill machinery imported, and of cotton manufactures exported.

The tax lists now being made up by the Government for the end of 1907, I am informed from a reliable source, will show the spinning spindles and power looms now listed for taxation in the various provinces of the various sections as follows:

Province.	Spindles.	Looms.	Province.	Spindles.	Looms.
Milan.....	650,000	20,000	Vicenza.....	40,000	.....
Bergamo.....	500,000	10,000	Total for Venetia	405,000	20,000
Brescia.....	300,000	5,000	.....	.....	.....
Como.....	185,000	10,000	Salerno.....	180,000	2,000
Pavia.....	140,000	2,000	Naples.....	60,000	4,000
Sondrio.....	55,000	5,000	Caserta.....	30,000	2,000
Cremona.....	.....	2,000	Bari.....	.....	2,000
Total for Lombardy	1,850,000	54,000	Total for Campania	270,000	11,000
Turin.....	610,000	20,000	Catania.....	15,000	2,000
Novara.....	560,000	15,000	Messina.....	5,000	5,000
Alessandria.....	100,000	5,000	Total for Sicily	20,000	7,000
Cuneo.....	30,000	.....	.....	.....	.....
Total for Piedmont	1,300,000	40,000	Genoa.....	200,000	10,000
Udine.....	200,000	10,000	Massa.....	35,000	2,000
Verona.....	120,000	.....	Grand total.....	4,060,000	144,000
Venice.....	45,000	10,000			

INDUSTRY CENTERED IN NORTHERN ITALY.

Lombardy lies in the extreme north of Italy, with Milan for its capital; Piedmont, with Turin for its capital, occupies the extreme northwest, and Venetia the northeast; Liguria is the maritime section just south of Piedmont, with Genoa for its seat; Emilia is the section lying south of Lombardy, where the Italian peninsula joins the mainland, with Massa for its seat, and Campania is a southern compartment, with Naples for its head. It is seen that cotton mills are centered in the northern section, in the compartments of Lombardy, Piedmont, and Venetia, with a smaller number in Liguria and Emilia, represented by Genoa and Massa in the foregoing table, and that what manufacturing exists in the Italian peninsula is

around Naples. Of the provinces the most important are seen to be Milan, Turin, Novara, Bergamo, and Brescia.

The Government and the local authorities of southern Italy are now trying to extend the development of cotton manufacturing in that section, and to this end land has been offered free of cost for mill sites, taxes will be remitted for ten years, and textile machinery for mills so locating will be admitted free of duty. These inducements, added to the fact that labor is much higher in the north than in the south, due to the greater demand for it, will undoubtedly tend to gradually increase the number of mills in that section. The labor, though cheaper, is less efficient, and the mills have to go to greater expense in other directions, and be more self-contained, as they are farther away from the machinery import agents, the machine repair shops, the export firms, the dyeing and finishing establishments, etc., that have developed to such numbers in the mill centers of the north.

The tax lists, as shown, give the number of spindles at 4,060,000 and the looms at 144,000, but mill men say that even these figures are much underestimated, and that the number of spindles now in operation in Italy is over 5,000,000, and the power looms over 150,000. They estimate the number of workmen at 250,000. The consumption of cotton in 1906 was 384,410,660 pounds, which would be equivalent to 768,821 bales of 500 pounds each.

SYSTEM OF MANUFACTURE AND NUMBER OF MILLS.

The cotton manufacturing industry of Italy is modeled after that of England, and the general custom is to have a separate mill for each stage of manufacture. Thus there are comparatively few mills that buy the raw material and then ship the finished cloth to the store without assistance from some other establishment. One mill makes only yarn, another operates only twisters, another does nothing but weave, and others have only the machinery necessary for dyeing, or printing, or mercerizing, or bleaching. For instance, a mill at Turin has a dye plant, twisters, and looms, while a near-by mill, in the country, has nothing but carding and spinning machinery. The country mill runs the cotton through the lappers and cards, and sends the card sliver to the city mill, where it is dyed, then carried back to the country mill and spun, and the yarn returned to the city mill and woven into cloth. In some instances four different mills are used for spinning, dyeing, weaving, and finishing the cloth.

The latest statistical list of the Cotton Industrial Association of Milan—that for 1906—gives the names and location of all cotton manufacturing establishments in Italy. They make no attempt to give the figures for the spindles and looms. Their list shows 530 separate companies, operating plants of all kinds to the number of 656. Included in the 530 companies are two companies operating mills in South America, from headquarters in Milan. The first of these has a spinning and weaving mill at St. Paul, Brazil. The other company has mills at Buenos Aires, Argentina, and at Salto del Ytu, San Roque, and Osasco, Brazil, as well as a mill at Castrezato in Italy. This last company was founded by a pioneer who inaugurated Italy's export trade with South America, and the

founding of mills in Argentina and Brazil was a natural development of this business. These mills are all run by Italian emigrants to those countries.

DISTRIBUTION AND CLASSIFICATION OF ESTABLISHMENTS.

The 530 companies employed in the various branches of cotton manufacturing are, according to the list, distributed as follows:

Establishments.	Lombardy.	Piedmont.	Liguria.	Venetia.	Campania.	Tuscan.	Emilia.	Rome.	Apulia.	Sicily.	South America.	Total.
Spinning mills.....	34	8	13	6	3	1						65
Twisting.....	8	3	1	1	1	4						18
Spinning and weaving.....	39	8	5	2	3	1						60
Power looms.....	168	24	11	10	3	6	1		1	1		255
Hand looms.....	30	14	1	4	1	26	4	2				82
Power and hand looms.....	11	4			1							16
Dyeing, printing, bleaching, and mercerizing.....	21	—	1	—	1	1						24
Knit goods.....	14	7	3				2					24
Sewing thread.....						1	2	1				2
Others.....	6	2	2									14
Total.....	331	70	37	23	13	42	7	3	1	1	2	530

It is seen that there are only 60 plants that combine both spinning and weaving to 225 that have only looms, 65 that are spinning mills, and 18 that operate only twisters; 24 plants are given as devoted to dyeing, printing, mercerization, and bleaching, one or all. In addition, of course, many of the yarn mills and the weave sheds have their own plants for dyeing, etc., in connection with their establishment. Also a good many of the spinning mills have their own twisters. There are shown 24 mills for making knit goods and 2 sewing-thread mills. In addition to the two thread mills shown, there are two or three of the yarn mills that also make thread as well as yarn. The largest sewing-thread company is in Milan, which was formed by the amalgamation of several companies into one, and this company will in time probably absorb its competitors and have the monopoly of the manufacture of this article in Italy. Of the establishments not separately listed, 3 are for cleaning and manufacturing flyings and other cotton-mill waste, 3 are for making anti-septic gauze, 2 for preparing cotton for use in the Government powder mills, and 2 are for making gauze and lace.

EXTENSIVE USE OF HAND LOOMS.

It will be noticed that in the list there are given 82 establishments as operating hand looms, and 16 as operating both hand and power looms. As labor gets higher the hand-loom industry will necessarily decrease, but at present it is a fairly profitable business in Italy. A large portion of their production consists of strongly made coarse goods for country wear—stripes, checks, etc.—and of cotton and linen cloths, of which there are large quantities made by both hand and power looms in Italy. The great bulk of the hand-woven product is colored goods.

The hand looms also compete in other lines—in Jacquard work, in making cotton trouserings and mixtures, and, to a smaller extent, in fancy goods. In some mills the hand and power looms work side

by side. For instance, at a mill I visited at Chieri, near Turin, I found a modern plant of 150 looms running on colored goods, Oxfords, alpacas, trouserings, etc., and in the same establishment 20 wide hand looms, with Jacquard attachments, making Gross de Tours or figured bedspreads, and also 30 narrow hand looms running on the same goods as the power looms. In addition to these, the firm employs some 150 hand-loom weavers who work at home. The products of this mill, both hand and power, are exported, chiefly to Argentina.

There are necessarily no figures available as to the exact number of hand looms in Italy. The Government estimate in 1903 of 4,206 hand looms on gray work and 9,601 on colored work was simply those given in for taxation by the registered companies, and the Government estimate for hand looms worked at home was 60,025, making the total number of hand looms 73,832. The hand looms are scattered more or less throughout Italy, but of the registered companies the majority are in Lombardy, Tuscany, and Piedmont. In Piedmont the hand-loom industry centers around Chieri, a small town some 20 miles from Turin. In Chieri alone there are 14 companies operating hand looms and 3 operating both hand and power looms. In Lombardy the hand-loom industry is located around the big cotton-mill center of Busto Arsizio, and in Tuscany it is grouped in the small towns lying back of Pisa.

COTTON-MILL DEVELOPMENT—LACK OF RAW MATERIALS.

At present Italy has a steadily expanding export trade in cotton goods, and her home demand is advancing still more rapidly, with the increasing prosperity of her people. This makes cotton manufacturing in most lines very profitable. That hand looms still compete I regard as due to the facts that there are not enough cotton mills and that there is such a profit in manufacturing that even the hand looms, aided by the tariff, can compete for a share of it. In mills running both hand and power looms, the hand-loom weaver runs one loom only; the power-loom weaver runs two, and is paid much less per cut than the hand-loom weaver. That this continues shows the great demand there is for cloth, but it can not last longer than the time when the mills can obtain capital and get machinery delivered. Hand looms, therefore, will necessarily decrease, and only be retained for very coarse goods, and for cloths, such as bedspreads, etc., on which the speed is necessarily slow anyway.

The great development of the cotton manufacturing business in Italy is all the more remarkable as the country supplies practically nothing but the labor. Italy has neither iron, coal, nor cotton. All of the iron for the mill buildings, nearly all of the machinery for the manufacture, all of the coal to drive the machinery, and all of the cotton to run through the machinery have to be brought thousands of miles, yet the mills are steadily increasing in number. Some machinery is now manufactured in Italy, but this amounts to a very small percentage of the requirements, and even in this case the iron is imported.

The great increase of cotton mills since 1902, since which time they have more than doubled, is due to various causes, among which may be noted that about that time the Italian Government declared its paper money on a par with and redeemable in gold—thus indicating

that its finances were on solid ground, which gave great impetus to all Italian industries—and the increasing foreign and home demand noted.

NEW LAW AFFECTING WOMEN AND CHILDREN IN MILLS.

In 1902 a law was passed, to take effect in 1907, prohibiting the night work of women and children in mills. The women and children form two-thirds to three-fourths of the operatives in Italian cotton mills. This law practically meant that the mills had to be doubled, and five years were accordingly allowed for the purpose. The purchase of the great quantity of new machinery required for this object, and to meet the ever-increasing demand, meant that the cotton mills had to raise large amounts of money, and this was somewhat difficult, even in the space of five years, so that when the new law finally became effective, in June, 1907, it still found some of the mills unprepared. The mills were very prosperous in 1905 and 1906, which induced many new competitors to enter the field and, in some cases, the stock of these companies was quoted at high figures, even before the foundations for the walls had been laid. The prosperity has in great measure continued, but so much money has now been tied up in the new enterprises that it has made money tight in Italy, and it will be some little while before the returns can come in. This has temporarily checked building, added to the fact that England is quoting eighteen to twenty-four months on delivery of machinery.

MILL MACHINERY—IMPORTS AND DOMESTIC PRODUCTION.

During 1905 and 1906, Italy imported cotton-mill machinery to the value of \$14,781,263. Speaking generally, the carding and spinning machinery used comes from England, the weaving machinery from Switzerland, and the dyeing and finishing machinery from Germany, while some, mainly napping machines, comes from France. England also sells a large amount of weaving machinery, but the majority of the Italian mills seem to prefer the looms from Zurich, especially for box work. The great bulk of the textile machinery is imported, but recently Italian machinery manufacturers, who already make large quantities of water and steam turbines, steam engines and boilers, gas engines, dynamos, and electrical material, have branched out into the manufacture of cotton-mill machinery, mainly on warpers, reels, and plain box and Jacquard looms. These do not, as yet, manufacture looms in very large quantities, but the manufacture must be profitable, as a good many new companies are being formed for this purpose.

The spinning frames used are, of course, all on the English style, with one leather-covered front roller, and uncovered, self-weighted middle and back rollers. Heretofore the majority of the mills have preferred mule spinning, but the new mills are installing mostly ring spinning. Three-fourths of the looms are of the overpick style.

MOTIVE POWER USED AND CAPITAL INVESTED.

In regard to the motive power, there are no very recent figures, but in 1903 the Government statistics show that of the 86,692 horse-power in that year, 43,834 was classed as steam, 35,705 as hydraulic, 6,623 as electric, and 920 as gas and oil. There has been a great increase in all four lines since, but especially in the use of electricity. The new mills in Italy are distinguished especially for the up-to-date

use of armored cement in construction and of electricity in operation. There has been a great increase in the use of hydraulic power among the mills situated so as to avail themselves thereof, especially those of Piedmont, where water power is very plentiful. Cardiff coal at present (November, 1907) costs at Turin 37 lire per 1,000 kilos (\$7.14 per metric ton), and as all coal has to be imported the mills using water power effect quite a saving. Gas and oil engines, which are a more recent arrival in the field, have been limited to small powers, but it is understood that some of the new mills are to be equipped with large units.

The Government gives the capital stock of the mills as being about 500,000,000 lire (\$96,500,000); the yearly wages paid as being about 100,000,000 lire (\$19,300,000). They state that about 23 per cent of the production is exported.

MILAN THE CENTER OF THE COTTON INDUSTRY.

The cotton manufacturing industry of Italy is centered at Milan, which is the industrial capital of Italy. From being one of the interior cities, dependent on Genoa for its commercial life, its trade has become so large that Genoa no longer suffices as an entry way for its imports and exports, and Venice is also being developed for this purpose so that it may have two good outlets to the sea. The one railway line from Genoa has to go through tunnels to get out of Liguria and is so congested that it takes longer for goods shipped from the United States to come from Genoa to Milan than from New York to Genoa. There is now being projected a system of waterways whereby freight can go from Milan to Venice by boat, which will aid greatly in relieving the present congestion. Last winter some mills had to shut down or run short time on account of coal being delayed by the congestion of the railroads out of Genoa.

Milan is now one of the most important industrial cities of Europe, and its importance is rapidly increasing as the export center for southern Europe. It is the headquarters of many cotton manufacturing firms that have their mills elsewhere, is the headquarters for the commission firms and export houses, for the machinery agents, for the machine shops, and other agencies and industries connected with cotton manufacturing. The banks of Milan largely finance the industry, and the associations of both the employees and the employers are located here. The latter, the Associazione fra gli Industriali Cotonieri e Borsa Cotoni, publishes a monthly paper called the Bollettino, which gives news in regard to the Italian industry, strikes, changes in tariff, etc., and information in regard to the opportunities for cotton manufactures in foreign countries, paying special attention to all items from Argentina and Turkey. This association includes all the larger cotton manufacturers and acts as a general information bureau for the trade.

Milan, though the center of the cotton-manufacturing business of the country, is not the largest mill town, and the bulk of the mills of Milan Province lie in the small towns north of Milan itself. The cotton-mill towns seem to be Busto-Arsizio, Monza, Gallarate, Milan, Turin, Legnano, Bergamo, Salerno, and Novara. The cotton mills do not think it to their interest to publish any details of their size or equipment, so the number of spindles and looms at each point can not be stated, but undoubtedly Busto-Arsizio and Monza contain the largest number of mills. There are 42 cotton mills at Busto-Arsizio

(not counting hand-loom establishments), but of these only 3 spin. At Monza there are 25 weave mills and 3 spinning mills. The spinning mills are mostly in the country.

ITALIAN DEMAND FOR FOREIGN COTTON GOODS.

It is to be noted that the Italian people themselves do not know how far their cotton industry has advanced, and still demand foreign, especially English, goods. To meet this demand many Italian manufacturers put on foreign labels to suit. Monza, for instance, exports 6,000,000 felt hats a year, and supplies both felt and fine hats for the home trade, yet the buyer likes the English label. It is stated that some of the hats are really sent to England, marked, and returned. It is the same with other articles. "English derbies" come from Monza or Cremona, "English flannels," bought in the Milan stores, come from Busto-Arsizio, "latest foreign novelties" from Alessandria, "French shoes" from Naples, "French gloves" from Milan, "champagne" from Asta, etc. The Italian manufacturers, therefore, study their home market as they do the foreign markets, and sell "English goods" to the Italian people, while they are selling "American Cabots" to the Turks, but all are made in Italy. Recently there has been quite a little written on this subject, and the Italians will probably in time buy their own goods under their native name.

The largest division of the goods made in Italy is comprised under the head of colored goods; gray goods come next, then printed goods, and then bleached goods. Among the main goods manufactured are napped goods, cotton flannel, flannelets, barchent, Oxfords, zephyrs, cotton trouserings, fustians, domestics, serges, Florides, Carolines, Mogador, sateens, shirting prints, Cabots (sheetings), shirting mixtures, men's suitings in imitation of wool, merinoes, linings, buckram, cotton and linen cloths, piqués, diagonals, bordered goods, lenos, table linen, reps, cretonne, Vichy (gingham), mercerized goods, Jacquards, Gros de Tours (bedspreads), towels, and handkerchiefs.

CATERING TO FOREIGN MARKETS.

The fact that the Italian mills cater to the demands of the buyer is one reason why they have been able to increase their business so rapidly both at home and abroad. In nearly all lines of cotton manufacture they entirely supply their home market, and no foreign goods can be imported in large quantities but the mills immediately start on its manufacture. Their foreign market has been built up by careful study and experiment. The export firms employ many travelers, and these keep the mills exactly informed as to the wishes of the buyers, and these wishes are deferred to, whether in regard to width and length of goods, marking, packing, or credit. Accustomed to long credit at home, these firms are equally ready to extend it abroad, and this fact has had a great deal to do with their supplanting other countries. They do not try to ship surplus goods to foreign markets, but make directly the goods that are required, and will take very small initial orders to start with. Their best markets are Argentina, Turkey, Egypt, India, and the Balkans. They also ship goods to other countries, including not only the Philippines, but some to the United States.

Among the goods exported may be mentioned especially flannelets, barchent, Oxfords, zephyrs, mixtures, trouserings, Cabots, shirtings, sateens, Gros de Tours, towels, and handkerchiefs.

The bulk of the cotton mills sell to the Italian stores through some intermediary agency, but a great many sell direct. Nearly every mill has its own designer, sometimes one to every 100 looms, and gets out books of new patterns every season—that is, twice a year—so that its customers can select in the spring for the fall goods and in the fall for the spring goods. Therefore when the Italian mills go after the foreign trade they never object to furnishing sample books, for that has been their regular custom at home.

AGREEMENT GOVERNING HOME SALES.

The terms of sale of different houses in the foreign business vary, and they have not yet come to any agreement among themselves on the subject. For the home trade, however, the terms of sale have become more definitely fixed, and the majority abide by the selling agreement rules of the Italian Cotton Association. This is only obligatory on the members of the association, but has become the regular custom for nearly all. This selling agreement, approved by the council of directors, January 15, 1907, is as follows:

ARTICLE 1. For cotton textiles in the gray, unless otherwise specifically stated, it is tacitly understood that the yarns must be stated according to the English numbering, and that the quantity of threads be given per centimeter or per quarter inch. By quarter inch in this case is meant a quarter inch French, unless otherwise specifically stated.

ART. 2. In the shipment of gray goods there will be made the following allowances: (a) Three per cent, more or less, upon the established quantity of the shipment, when it does not run above 2,000 pieces; 2 per cent upon shipments running up to 5,000 pieces; and 1 per cent on shipments of more than 5,000; (b) 4 per cent upon pieces of irregular width; (c) if in the contract of sale the length of the pieces is indicated with a single number, the advantage of regular width is to be accorded to pieces which do not vary more than 3 per cent from the indicated number. If the length is indicated in two numbers, the allowance will be calculated on the average length; (d) 1 per cent on the width of the goods; (e) upon the average weight of every shipment an allowance of 2 per cent based on the theoretical weight of the goods and of 5 per cent upon the single pieces. When this allowance is exceeded, but when the difference in weight does not exceed by at most 1 per cent the average of the shipment, corrections may be made corresponding to the difference in weight between the allowance and the actual. Greater differences being established, other goods must be substituted. Allowances are made on single shipments and on fifteen days time.

FILING OF CLAIMS AND EXCEPTIONS ALLOWED.

ART. 3. Claims based on the quality of the goods and upon the weight must be made within fifteen days from the receipt of the shipment, excepting cases where there exist hidden defects not apparent within that time. When such hidden defects appear they must be made the subject of claims under the general commercial laws within two days from the date of discovery.

ART. 4. In the case of total or partial failure of deliveries within the time established by the contract of sale, the purchaser has the right to annul that part of the contract relating to the part of the shipment remaining undelivered, and to claim damages, determined by arbitration, always providing that the purchaser gives notice to the seller of such action in a registered letter or telegram, such notice being of not less than fifteen days.

ART. 5. There are allowed four exceptions to the right of claim stated in the preceding article, thus: Floods, extraordinary droughts in canals or rivers, disablement of principal machinery or transmission gearing, strikes up to forty-five days, and an additional exception is suspension of the railway service. All these causes must be proved by acceptable documents. These are considered cases of "superior force" both for the seller and for the purchaser, and can not be claimed as ground for the cancellation of the contract, but only as suspending delivery.

ART. 6. If the factories or stores of either the seller or the purchaser are destroyed by fire or by whatever other catastrophe of superior natural force, and are rendered incapable of effecting or receiving delivery or a partial execution of the contract of sale, and such period of incapability continues for more than three months, the contract may be canceled. The contracting party who requests the cancellation of the

whole or a part of the contract of sale, and by such cancellation retains in his hands a part of any moneys paid thereon, must indemnify the other party, and in such cases the parties may resort to the judgment of arbitrators to fix the measure of indemnity.

CONDITIONS OF SALE, FORWARDING, AND PAYMENT.

ART. 7. When the contract states nothing to the contrary, it is understood that both parties will tacitly accept the following agreements: (a) Goods to be marketable; (b) discount at 2 per cent; (c) payment at thirty days; (d) interest at 6 per cent; (e) shipment to the designated port, at the risk of the buyer; (f) shipment as a whole to go forward as nearly as possible in sections equal to the number of months between the execution of the contract and the date named as the termination thereof. If the termination of the contract is not fixed, it will be understood for the purpose of timing the shipments thereunder that it is to run for six months; (g) arrangements to be made not less than ten weeks prior to the going into effect of the contract; (h) the compromise clause, as formulated in the standard contract in use by the members of the Cotton Association, and the application of similar special regulations of the association, will be understood.

ART. 8. If the buyer does not dispose of the goods within the terms of the contract, the seller, previously giving fifteen days notice by wire or by registered letter, has the right to annul that part of the contract not carried out, and to reimburse himself with the differences in price existing at the termination of the contract, or to sell in the market one or more of the qualities of textiles named in the contract.

ART. 9. In regard to the monthly shipments, it is understood that they shall take place on the day most convenient to the seller. For shipments divided within a given month it is understood that they shall go forward as nearly as possible in consignments equal to one for each week of the month.

ART. 10. The contracting parties, for purposes of the contract, will consider the residence of the seller as their legal domicile, in the absence of special provisions to the contrary.

ART. 11. Payment must be made at the domicile of the seller in legal tender.

ART. 12. The seller may suspend shipment, under any and every contract, in consideration of a tardy buyer, unless the contract contains special provisions to the contrary. And without such special provisions the tardy buyer will have no rights for claiming an indemnification of damages.

These rules are good also for domestics sold in standard makes, but for these sales there are excluded articles 1 and 2 e, and the allowance named in article 2 a, because it is usual to ship these in the precise quantity contracted for.

COTTON MILLS.

DETAILS OF OPERATING METHODS.

PRODUCTS OF A SUCCESSFUL MILL NEAR NAPLES—EQUIPMENT ONE OF THE BEST IN ITALY.

Spinning mills and weaving mills in Italy are generally erected separate. For spinning mills the figures as given me by various manufacturers vary from 60 to 75 lire (\$11.50 to \$14.50) per spindle. For a weave shed the cost per loom was given as about 800 lire, which is \$154, but this depends so much on the number of looms and what amount of preparatory machines, such as slashers, cop winders, etc., and what finishing machinery, such as starching machines, brushers, shearers, etc., are included that this is not very definite. For weaving alone the total cost of shed is figured at 600 lire or \$116 a loom.

The most successful cotton manufacturing company, as well as one of the oldest in southern Italy, is located at Salerno, near Naples. The two mills owned by this company run on rather finer goods than the majority of Italian mills and their goods have a wide reputation. They make mostly for the home trade. This company has 40,000 spindles, 450 looms, and 12 printing machines. The output is mostly fine goods, using 30s to 50s yarn, especially white shirting, fine striped shirting, gingham, dobby goods specialties, and flannelets.

American cotton only is used for the fine goods, some Indian cotton is mixed in for the flannelets, and Egyptian cotton is sometimes used for stripe effects on the specialties. Most of the machinery is from England, but the majority of the looms were from Switzerland, and the manager stated that he preferred these to any English make, being made stronger and the box motion being better.

This mill is one of the best equipped in Italy and relies on itself for everything; in fact, has to do so, as it is situated away from the machinery centers. The engine used in the dyehouse was designed cast, finished, and put together at the mill. A large foundry and machine shop is also attached. The mill bleaches, dyes, and prints. A different bleach is of course used for cloths to be printed and those to be sold as white goods, the former having to be more thorough.

The engines and boilers are Swiss, and all coal is brought from England, the mill buying large quantities at a time and at present paying 35 francs (\$6.75) a ton. The mill is lighted by gas, with open gas jets above each loom, and it is curious to note that, as stated by the manager, the insurance companies give them a lower rate on gas than they would on electric lights. The gas plant is owned by the mill. There is also a small dynamo, but it is only used to charge accumulators so as to light the houses of the proprietor and the overseers at night. The mill does not work at night.

CALICO DESIGNING AND PRINTING.

This mill makes its own copper rollers for printing, makes its own designs and patterns, engraves the rollers, and then does the printing. In making the printing patterns on the copper rollers from designs three methods are used. The first method is to put the copper roller, which is some 6 inches in diameter by 36 inches long, into a lathe and turn the pattern on it by means of a tracing point guided by an iron design, but such designs are limited in their scope and too regular in their pattern. Another method is to engrave one repeat of the pattern, or a section of a repeat, on a small "mill" made of harder material than the roller, and then to set this in the lathe and press the pattern into the copper roller therewith. The slowest but finest method is to engrave the large rollers by hand, and sometimes six months are taken by a skilled workman to finish one design in this way. One roller is used for each color, so a six-color pattern will require six rollers. Some of the sketches made up by the designers are very artistic. The engravers are also highly skilled men. The rollers for putting a glazed-line finish on the cloth, also made here, have lines running slantwise around the rollers, but so fine they can not be seen with the naked eye.

After printing the colors are fixed by the "cottage system" of steaming. The cottage steamer consists of a large cylindrical iron chamber, 10 feet in diameter, similar to a boiler in shape. The front of the steamer is provided with a strong iron door, which is raised to allow the carriages containing the pieces to be rolled in and out on rails. The door is fastened by strong screws, so that after the carriage is rolled in and the door shut the chamber is steam tight. Pressure used is about 30 pounds. There has also been installed a new continuous steaming machine. This mill also has quite a variety of old and new machinery for soaping and fixing, bleaching, etc. It does not do its own mercerizing, but sends the yarn to Milan, where it is mercerized and returned.

WIDE-AWAKE BUSINESS METHODS—OPERATIVES AND WAGES.

One of the main lines made by this mill is napped goods, especially printed flannelets and barchent, the first being napped on both sides, and the latter hard finished on the outside and napped on the underside. Patterns for these goods are sent out in the spring and made up in the summer for fall delivery, while patterns for light goods are sent out in the fall and made up in the winter for spring delivery. The designers of this mill are steadily at work all the time getting out new patterns and designs. This company has its own printing establishment, prints and binds its own pattern books, and has a staff of men to cut out and insert the samples, and sends carefully packed small wooden boxes containing different sample books to all its principal customers.

This company employs some 2,000 operatives, and the wages of the bulk of the employees average about $1\frac{1}{2}$ francs, say 30 cents, a day of eleven hours. At the gate office the company has a large board with hooks, from which are suspended numbered brass tags. Each workman is known by number, and as he comes in he takes his tag with him and replaces it when he leaves, so at any time the clerk can tell at a glance what numbers are absent. This mill has

no tenement houses, and most of the employees are natives of the district, owning their own houses or else boarding in crowded flats in the neighboring town.

EQUIPMENT AND OUTPUT OF A MILL IN MILAN PROVINCE.

A mill that was built last year in a small town in Milan Province paid the following for the main textile machinery used, the prices being f. o. b. ship at Manchester:

Machinery.	Cost.	Machinery.	Cost.
1 pneumatic opener.....	\$1,475	5 intermediates, 144 spindles.....	\$5,596
2 scutchers.....	667	12 fine frames, 180 spindles.....	11,972
30 cards.....	16,497	4 self-actings (mules), 1,000 spindles, 1 $\frac{1}{2}$ inches.....	6,229
9 draw frames, 10 deliveries each.....	4,380	20 ring frames, 400 spindles, 2 $\frac{1}{2}$ inches.....	18,687
3 slubbers, 96 spindles.....	2,803		

The scutchers and cards were for laps 40 inches wide. The cards had 102 flats, 1 $\frac{1}{2}$ inches center to center, with 50-inch cylinder and 24-inch doffer. The draw frames were made double—that is, five heads facing one way and five the other. The slubbers had $\frac{3}{4}$ -inch spindles, 4 in 20 $\frac{1}{2}$ inches, and the bobbins were 10 inches by 6 inches. The intermediate had 8 spindles in 25 $\frac{1}{2}$ inches and bobbins were 10 by 4 $\frac{1}{2}$ inches. The fine frames had 8 spindles in 20 $\frac{1}{2}$ inches and bobbins were 7 by 3 $\frac{1}{2}$ inches. The mules were of 1,000 spindles each, 1 $\frac{1}{2}$ inches center to center. The ring frames were of 400 spindles each, spaced 2 $\frac{1}{2}$ inches center to center, with 1 $\frac{1}{2}$ -inch rings and 5-inch traverse. The numbers made by this mill are mostly 20s to 30s, and the production was some 6,000 pounds of yarn per 10 $\frac{1}{2}$ -hour day using some 14 bales of American cotton per day.

WEEKLY WAGES OF EMPLOYEES.

The regular weekly wages in American currency, based on the rate per day, except as stated, were about as follows:

Employees.	Per week.	Employees.	Per week.
General personnel:		Card room—Continued.	
1 manager, here called director, at 15,000 lire a year.....	\$57.90	2 slubber tenders, at 2 lire each.....	\$4.63
1 bookkeeper at 5,000 lire a year.....	19.30	4 intermediate tenders, at 2 lire each.....	9.26
1 clerk at 5 lire, and 3 clerks at 3.5 lire each.....	17.85	9 fine-frame hands, at 2.25 lire each.....	23.45
1 gatekeeper at 2 lire.....	2.32	2 roving carriers, at 2 lire each.....	4.64
1 night watchman at 2.5 lire a night (7 nights).....	3.38	Total, card room.....	85.40
1 Sunday watchman at 2 lire.....	2.32	Spinning room:	
2 boiler-room men, at 3.5 lire each.....	8.11	1 foreman at 6 lire.....	6.95
1 engineer at 5 lire.....	5.82	1 assistant in charge of mules at 5 lire.....	5.79
1 machinist at 6 lire, and 2 assistants at 4 lire each.....	16.21	2 mule spinners, at 5 lire each.....	11.58
1 waste packer at 2.5 lire.....	2.90	4 mule threaders, at 3 lire each.....	13.90
1 roll coverer at 4 lire.....	4.63	2 carriers and oilers, at 3 lire each.....	6.95
1 general utility man at 2.5 lire.....	2.90	1 rope binder at 3 lire.....	3.47
Total, general personnel.....	143.64	2 assistants on ring spinning, at 4 lire each.....	9.26
Card room:		20 female spinners, at 2.2 lire each.....	50.95
1 foreman at 6 lire.....	6.95	16 doffers, at 1.25 lire each.....	23.16
1 assistant at 3 lire.....	3.47	4 apprentices, at 1 lire each.....	4.63
Picker-room force, 3 men, at 2.5 lire each.....	11.58	2 benders and oilers, at 2.5 lire each.....	5.79
1 card grinder at 5 lire.....	5.79	1 baler at 2.25 lire.....	2.61
3 carders, at 2.5 lire each.....	8.68	Total, spinning room.....	145.04
3 draw-frame tenders, at 2 lire each.....	6.95	Total wages, entire mill.....	374.08

A TYPICAL MODERN MILL.

The largest number of mills collected at any one point in Italy is at Busto-Arsizio, in Lombardy, a village some 28 miles north of Milan that consists of nothing but cotton mills and dwellings for operatives. It has 42 mills, only 3 of which are yarn mills, as the latter are mostly situated in the country, where labor is cheap, and especially where water power can be obtained, while the weave sheds mostly gather in groups, so as to avail themselves of the common dyeing, bleaching, and finishing establishments.

The new Italian cotton mills are especially distinguished by their use of armored concrete in construction and of electricity in operation. The newest mills are equipped with every modern improvement, and, as the majority of the Italian mills are comparatively new, this gives them an advantage over some other countries where the industry has been longer established.

One of the finest of the new mills I examined had just been completed. It has 15,000 spindles and 500 looms, and is to increase its spinning capacity as soon as it can get machinery delivered. It uses 11 bales of American cotton a day, and runs on 20s to 28s, with a smaller amount of coarser yarns.

The mill compound is walled in, with the office at the gate. The spinning occupies one building and the weaving another. The building for the spinning mill is three stories high, with flat tar and gravel roof. The main feature of the building is the use of concrete. Inside and out one sees cement only. The brickwork and all ironwork are concealed by cement, and there is no woodwork. The window frames and sashes consist of flat strip iron with narrow 5 by 20 inch panes of glass. Except for the windows, no ironwork is seen anywhere. The ceiling inside shows a flat cemented finish broken up into panels by the 8-inch-square cement beams supported by cement-covered columns. The mill is absolutely fireproof and no sprinklers are used, but there is a water system consisting simply of pipes running up the wall at the corners with lines of fire hose attached.

DIRECT MOTOR-DRIVEN MACHINERY—ARRANGEMENT OF MILL.

Next to the use of cement, the feature that strikes one in the spinning room is the absence of overhead work. Usually a cotton mill has overhead a network of shafting, belting, sprinklers and connections, heating pipes, etc., but here there was no obstruction whatever, except a few straight lines of heating pipes, and the absence of overhead work makes a very neat looking room. The establishment is operated entirely by electricity, a dynamo of 500-kilowatt power being used, of which the spinning mill absorbs 160 and the remainder is used for the weave shed, lighting arrangements, for machine shop, pumping, etc. A direct connected motor on an elevated platform drives the main overhead shaft for the card room, but for the spinning room each of the 400 spindle frames has a separate direct connected motor. The frames are set crosswise of the mill. The columns are spaced 5 meters (meter=3.28 feet) between bays, and there are seven bays, so that the mill is about 115 feet wide, which gives

room to set two frames with their motors at the end and have plenty of passageway. Lengthwise of the mill the columns are spaced 7 meters from center to center. The frames run remarkably steady, and it is claimed that a much greater production can be obtained than with belts, which I think has been the experience in the United States.

On the first floor of this mill are the scutchers and the card-room machinery. On the second floor is situated the ring spinning, and on the third floor are the mules, with space for others to be installed later. As usual, one end of the mill is divided by a wall, and at this end, on the third floor, are stored bales of cotton. On the second floor there are bins, where 100 bales of cotton are kept opened up all the time and where the oldest mixing is laid on the long lattice of an opener and then carried down through a dust flue to the breaker on the first floor. It goes through two scutchers, and the laps are carried thence into the card room. There are 30 cards with $37\frac{1}{2}$ -inch flats. Like all the other carding and spinning machinery in this mill these are from England.

SPINNING AND WEAVING PROCESSES.

There are used three processes of drawing, with leather-covered rolls and mechanical stop motion. The roving processes consist of three 96-spindle slubbers, four 144-spindle intermediates, and nine fine frames of 180 spindles each. For roving to be used for 12s yarn the numbers are 0.5, 1, and 2.5 hank, respectively, for slubber, intermediate, and fine frame, and for roving to be used for 28s the corresponding hank numbers are 0.8, 2, and 5, respectively.

The direct-connected electric drive enables the frames to be run at a good speed, and the spinner gave the speed of front roll of the ring frames on 20s as 155 revolutions per minute and of the mules on 12s and 16s as 170 revolutions. The ring frames were of 400 spindles each and the mules of 1,000 spindles each.

The weave shed is a one-story building, with yarn storage room and warp-preparing machinery at one end. The weave shed, like the spinning mill, is of cement construction throughout, with cement floor. The roof is the usual saw-tooth style used throughout Italy. The looms are of different makes, but mostly English. They are both narrow and wide intermingled, so that a weaver would not have all the same. There are a few dobbys, but most were plain and box looms, all being overpick style. Some have the English revolving shuttle box, but most use the ordinary up-and-down style. The products are mostly cheviots, chambrays, trousering, and plain wades, gray, and bleached. Both bleaching and dyeing are done by an outside establishment.

WAGES OF SPINNERS AND WEAVERS.

In the card room wages are as follows: Picker-room hands get 2 to 3 lire a day (lira = 19.3 cents), carders get $2\frac{1}{2}$ lire, and 3 carders and 1 card grinder run the 30 cards. Draw-frame tenders get 2 lire a day. Slubber tenders get 10 centessimi (about 2 cents) a hank, and the intermediate and fine frame tenders in proportion, so that their wages

per day vary between 2 and 2.5 lire. On the spinning frames girls run from one to two sides, and are paid by the production, but wages average about 1 lire per 200 spindle side. For the 15,000 spindles there are 12 doffers, each under an assistant, the doffers getting 1.25 lire per day.

Prices for weaving vary, so that figures without samples are of little value, but on the plain wides of 140-centimeters (55.12 inches) width the weavers get 5½ centessimi (1.06 cents) a meter (39.37 inches), and cuts run 50, 100, and 120 meters in length. On the narrow goods up to 75 centimeters (29.53 inches) the price averages about 3½ centessimi (0.68 cent) a meter. The wide looms are run 135 to 150 picks per minute, and the narrow looms 180 picks a minute. These prices correspond to about 1 cent a yard for 68-pick goods 55 inches wide, and about 0.6 of a cent a yard for 48-pick goods 30 inches wide. The weavers, therefore, make 2 to 2½ lire a day, a few getting as high as 3 lire.

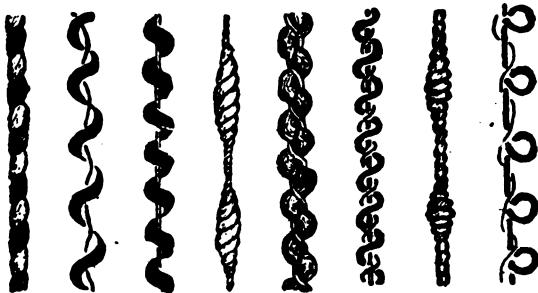
A TURIN FANCY WEAVING MILL.

Another fancy weave mill at Turin has 320 looms, and is one of the most complete and up-to-date mills in Italy. The mill buildings themselves are not new, but most of the looms are of recent design, and use, as do practically all the Italian mills, the system of harness and card operation that was invented by an Italian and, after being declined by an American textile machinery company, was bought by a Swiss firm at Zurich. This mill dyes, mercerizes, bleaches, twists, weaves, and finishes.

Part of the operations incident to cotton manufacturing are carried on in an outside mill, located in the country near Turin, as this mill does not card or spin. It is interesting to note that this mill dyes the sliver, however. The country mill dumps each can of card sliver, as made, into a burlap sack of the same size as the card can and sews this up. This is sent to the Turin mill and the roving, sack and all, is immersed in the wooden dye vats. These vats are made of 2-inch plank, and are some 3 feet square by 8 feet long. The sack and its contents are then put, with some hundreds of others, in a big drying chamber and left for three to five days to dry. They are then carried back to the country mill, opened up for the first time, and the roving run, as usual, through the drawing and other processes. By varying the colored ends on the draw frames an infinite variety of colors can be produced, especially colors in imitation of wool. This mill makes a specialty of cotton cloths in imitation of wool. Recently, to save the long time required to dry the dyed roving in sacks, the manager of this mill has had built a peculiar drying machine, and the slivers are run through and coiled in the sack again at the other end. The movement is slow, but, as a great number of ends are run through at once, it is a great deal faster than the old method.

Roving is also bought from the country mill in numbers down to halves on the speeder bobbins. These bobbins of roving are placed in the twister and run through with a strand of fine yarn, say 20s, to give requisite strength for weaving. Sometimes only the fine thread is sized, and the soft coarse yarn thus prepared is used to make wool-barred effects on the loom. Various other kinds of fancy and irregular yarns are used to produce certain effects on the cloth, mostly in the

way of stripes and cross-barred effects. The following shows some of the fancy yarns used for this purpose:



Classes of yarns used in Turin fancy weaving mill.

PREPARATION OF THE YARN.

The regular yarn used is all bought in the skein. Part of it is bleached in the usual way by steaming in a closed kettle, passing through a hydrochloric acid bath and then drying in a hydro-extractor. Yarns to be dyed are steamed in a closed cylindrical kettle and then dyed by hand in the wooden vats. Dyers are paid 3 lire a day. Yarns to be mercerized are put on stretching rollers on the ends of the spokes of a German revolving mercerizing machine. The yarn is kept tightly stretched, and is revolved through a succession of caustic soda baths and cleansing baths of water. After bleaching, mercerizing, or dyeing, as the case may be, the skeins are carried into the dry room, where they are hung in rows on the arms of a big jenny revolving around a vertical center and exposed to a hot blast for three or four hours. This is for yarn to be used for filling.

The warp skeins are sized in a skein sizing machine, in which the skeins are simply placed on two revolving rollers, which carry the skeins round and round through the sizing and squeeze rollers take off the superfluous size. These skeins are placed on the arms of a big swift revolving horizontally in a closed drying chamber and exposed for several hours to a hot blast until dry. All of the warp used at this mill is thus sized in the original skeins without unwinding and the results seem very uniform and satisfactory. The warp skeins then go to the spoolers, where each skein is placed on a separate swift resting on open bearing under the machine, and the yarn goes up and is wound on spools that revolve horizontally on skewers resting on open supports. The skewers are revolved by friction with a larger smooth pulley underneath, and for this purpose the end of the skewer in contact with the pulley is made of about 1-inch diameter and some $\frac{1}{4}$ -inch face. Any spool is stopped by lifting the skewer from contact with the wheel, and there is a separate wheel for each skewer to rest upon. In the case of filling the skeins are placed around swifts underneath the machine, as before, and the yarn goes up and is wound on inverted paper cops. The paper tube is fitted on a revolving spindle, and around each are three small, loosely revolving cones, which give the required shape to the cop. Where it is desired to wind from spools to cops the spool is placed on a skewer and substituted for the skein swift in the supports underneath.

On the twisters, where the yarn is doubled, the two ends are always run around the top roller and brought back around a glass pin and then under the top roller again and down to the twister bobbin. Usually to equalize the tension only one end goes back to the glass pin and the other goes straight down and joins it as it goes under the roll the second time.

YARN PRINTING AND BEAM WARPING.

Yarn printing is performed on a small machine, where the skein is stretched evenly over three fluted rollers, one of the rollers being loosely laid in the framework of the machine and series of slots allowing it to be placed in varying positions, according to the different length of the hanks. The printing roller is inside the hanks of yarn and is furnished with an ordinary color box and furnisher, while on the outside of the yarn is a pressure roller, and between these two rollers the yarn passes and is printed. The printing roller, with its furnishing roller, etc., is carried on a swinging framework, to enable the yarn to be readily put in and taken out of the machine. The printing rollers are engraved, with the lines of the engraving running spirally around it to avoid the jumping that might be produced if the ridges were straight. This printed yarn is some of it used as printed and some run through on the twister with one or more ends of some other color on the twister to give various combinations.

The yarn being already sized as it comes to the beam warper, it is necessary for many ends to be run on the warp beam, as this beam in this case goes straight to the loom. It would not be convenient, even if possible, to run 3,500 ends on a beam at once from a creel, so the beam is built up in sections, on the German or English style. The English style is to run each creel of 500 spools on to a narrow warp beam, about 6 inches between heads, and then these narrow beams are slid on a shaft together to make up the required number of ends, but the heads have to be removed from each, and this is troublesome. The German style is preferable, as being better and giving less trouble. The creel is made up of possibly 500 ends, and these run on a regular length loom beam with one movable end. The beam is so arranged that it can be slid any desired distance in its supports. Thus 500 spools are wound off on to this beam in a distance of 6 inches. The head is slid 6 inches farther to the right and the beam 6 inches farther to the left, the creel refilled and another 500 spools wound off, as before. This is continued until all seven cheeses have been wound on side by side, when the movable head is firmly fastened and the beam goes to the drawing-in hands. For drawing-in two girls work together, and they are jointly paid 20 centessimi (3.86 cents) per 1,000 ends for four-harness work, and other harness work in proportion.

LOOMS AND WEAVING PRICES.

This mill uses the Honegger loom as made at Zurich, and prefers it to the English looms. This system is really a kind of dobby, with a pattern card, and allows of quite a variety of patterns. About half the looms have the Jacquard attachment, and the mill designs its own patterns, which are mostly variations of woolen cloth patterns, as the goods produced are mainly imitations of woolen goods. Practically all the looms were making split goods—that is, the goods were

woven 125 centimeters wide, with a split mark down the center, and afterwards split into two 62-centimeter widths in the cloth room.

These wide looms were run 140 picks per minute, and weavers were paid by the cut of 35 or 40 meters. Weaving prices vary for each variety of these fancy goods, but they are arranged so that a good weaver will make about 3 lire a 10½-hour day running two looms. Thus, on the average 36-inch pick goods, 125 centimeters (49 inches) wide, the price per 40-meter cut is 1.5 lire, or about 29 cents. This makes the weaving cost of the finished goods, 24–25 inches wide, about 14½ cents per 40-meter cut, or about one-third of a cent a yard. The mill bases this on 70 per cent production, and anything over the required amount is paid for in proportion. The cloth is finished and burnished with silk effect or else napped.

This mill for 320 looms uses three designers, and they make up and send out to their customers about 150 new patterns every season. Artificial silk is used for ornamental effects in some of the designs, some of which have been sold in New York.

COMBINED HAND AND POWER LOOM ESTABLISHMENT.

There are sixteen or more cotton mills in Italy that operate both hand and power looms. Several of these are located at the little village of Chieri, near Turin, and this place is the center of the hand weaving in Piedmont.

One of these mills at Chieri operates 150 power looms of Swiss make and in the same establishment 20 wide and 30 narrow hand looms, and also employs some 150 hand-loom weavers that work at home. This mill makes mostly Oxfords, trouserings, striped drills, cotton, and linen goods, and also bedspreads, colored goods in general, and fancy-woven vestings. There is no spinning, and the yarn is all bought in the hank. The filling is wound off on cops ready for weaving. The warp is wound from the skein on spools and these spools placed in a creel and mill warped.

The warping mill consists of a large reel of about 15 yards circumference, which is made to revolve. This reel is fixed upright in a framework, and the ends from the spools, after passing through the eyes of the heck, are wound around the reel. This heck is so constructed that one half of the ends can be raised above the other half and a lease taken when desired. The heck slides up and down the framework of the mill and thus forms a traverse and distributes the warp as the reel revolves. As the reel revolves the heck slowly rises, and so causes the warp to be wound on the reel without overlapping. The heck is moved up and down a sufficient number of times to give the required number of ends in the warp when the warp is cut off and unwound, being made up by hand in a warp chain. The creel of these old-fashioned warp mills are turned by hand wheels, but small motors had been attached to two of them, and the others were to be so fixed later. After dyeing and sizing the warp goes to the loom.

Some of the warp is bought by this mill already sized in the skein. In this case the skeins are wound off on spools and these placed in the creel of a sectional warper. The machine winds the ends into what are in England called "cheeses," from the similarity of the section to a whole cheese. They are really transverse sections of an ordinary weaver's beam. The cheeses are then put on a beam, and

the whole is rewound on the weaver's beam by means of a "winding-off" machine. The girls that work on the cop winders get 1.25 lire a day, and the warper girls get about 1.5 lire a day.

EQUIPMENT, WAGES, AND OTHER DETAILS.

The power looms are in a new building with steel saw-tooth roof, cemented walls, and wood floor. The floor is laid in thick oak blocks, 4 by 12 inches in size, fitted into each other so as to give a very solid-feeling floor. All belting is in a cellar underneath, and there is no overhead shafting. Each weaver runs two looms, and is separated from the next weaver by an iron lattice, so there is no strolling up and down the weavers' alleys. The cuts are 30 and 35 meters (meter=39.37 inches) in length, and mostly 28 to 32 inches wide. Looms are run at 170 picks a minute, and the tariff of wages is arranged for the different goods so that a two-loom weaver makes about 2 lire (39 cents) a day.

The 30 narrow hand looms are running mostly on fancy vesting and dress goods, and run some 60 to 80 picks a minute and get 102 lire a meter. These are operated by girls. The 20 wide looms are all fitted with Jacquard attachments and double boxes, and make "Gros de Tours," or figured bedspreads. These goods are 2½ to 3 meters wide, and the weavers get 1½ lire a meter. The working speed is about 40 picks a minute, and the weavers make such good wages that they only work about every other day. The work of running these heavy looms by foot power is very exhausting and only men can be employed. The hours at this mill are only 9½, starting at 8 o'clock in the morning, stopping from 12 to 1.30, and ending at 7.

The cottage weavers work mostly on cotton and linen cloths and work very long hours. They make 2 to 2½ lire a day. The fact that hand-loom weavers work so much longer hours than the power-loom weavers is one reason why hand looms still compete in Italy.

OTHER LARGE MILLS IN ITALY.

The largest cotton manufacturing establishment in Italy is the Societa Italiana per l'Industria dei Tessuti Stampati, which has a capital stock of \$3,860,000, employs about 6,000 work people, and operates 70,000 spindles, 4,000 looms, and 46 printing machines, besides 1,200 meters (4,000 feet) of tables of hand-printing work. This company well illustrates the growth and amalgamation that is going on in the Italian industry. The beginning of the mill was laid some thirty years ago when an intelligent, energetic young man rented a small building and started a very modest dyeing and printing house for hand-woven goods, for the mechanical power of which an old horse was amply sufficient. Under his active, progressive management this small business gradually grew until it became a large mill, then absorbed other companies that were competing, until to-day this establishment represents 40 per cent of all the production of printed goods in Italy.

Among the other largest companies may be noted the following: The four mills of the Cotonificio Cantoni at Castellanza, Legnano,

Besozzo, and Bellano give work to more than 4,000 operatives. The three mills of the Cotonificio at Biella, Occhieppo, and Migliano give work to 3,700. The two mills of the Cotonificio Veneziano, at Venice and Pordinone, employ 3,000. The same number is employed at the mills at Cazzaniga and Vertova of the Cotonificio de Valseriana. The three mills of the Manifattura Tosi at Busto-Arsizio, Castellana, and Novarra, employ 2,500, and the same number is employed by the three mills at Salerno, Angri, and Pellegrino. Two thousand operatives are employed at the three mills at Capriate d'Adda, Ghemme, and Baveno; 1,700 at the two mills at Salerno and Nocera; and 1,500 are employed at the Cotonificio Torinese.

Probably the largest number of spindles is owned by the Cotonificio Valle Seriana, as they have 70,000 in the Cazzaniga mill and 55,000 in the Vertova mill, or a total of 135,000. They also have 700 looms.

FINANCIAL SHOWING OF LEADING MILLS.

The following is a list of the large mills usually quoted on the Milan market, giving the capital, the dividends for 1905 and 1906, and the market value at various periods (1 lira = 19.3 cents):

Name of mill..	Paid-up capital.	Nominal value of shares.	Dividend paid.		Market value.	
			1905.	1906.	1904.	1905.
Tessuti Stampati.....	20,000,000	250	16.00	20.00	305	386
Manifattura Tosi.....	8,000,000	250	17.50	20.00	374	360
Cotonificio Bergamasco.....	8,000,000	250	15.00	17.50	289	306
Cotonificio Mugniani.....	8,000,000	250	16.20	20.00	325	332
Cotonificio Val d'Olona.....	7,000,000	200	10.00	15.00	.....	268
Cotonificio Cantoni.....	7,000,000	250	24.00	26.00	560	556
Cotonificio Valle Seriana.....	6,000,000	250	20.00	25.00	450	455
Cotonificio Veneziano.....	5,600,000	175	12.50	14.00	308	264
Cotonificio Fürter.....	5,000,000	250	15.00	12.50	335	316
Cotonificio Busrese Ottolini.....	5,000,000	200	.....	16.00	230	294
Manifattura Rossari and Varzi.....	4,750,000	250	22.50	25.00	.....	340
Lampugni, Gaio Abbiati.....	4,000,000	200	.....	20.00	.....	250
Cotonificio Candiani.....	3,000,000	200	.....	6.25	225	150
Industria Cotoniera Carlo Crespi.....	2,500,000	200	.....	15.00	.....	220
Cotonificio di Trovaso.....	2,500,000	250	.....	6.50	.....	230
Cotonificio Cova.....	2,250,000	250	.....	16.25	.....	300
C. Pacchetti & Co.....	2,000,000	100	.....	12.00	.....	240
						232

RING VERSUS MULE SPINNING COSTS.

NEW MILLS GENERALLY BEING EQUIPPED WITH RING FRAMES.

There have been several articles in Italian journals lately contrasting the advantages of ring and of mule spinning. For a good while the Italians followed the English custom of preferring mule spinning, but the new mills are being equipped mostly with ring frames, because of their saving in floor space and greater production at less cost. The spinning mills that are located at some distance in the country and sell on the cop still prefer the mule, because of the saving in weight effected by the smaller weight of the paper tubes over bobbins. The Italians call ring-spinning frames simply "rings," while mules are known as "self-actings," both terms being borrowed from the English. The articles referred to throw so much light on the cost of plant and operating expenses for "rings" and "self-actings" in Italy that they are translated and the gist of the articles herewith repro-

duced. The wages given by this Italian authority are slightly higher than the average of the Italian mills that I visited, but the speeds given are also slightly higher and the proportion about right for the new mills operated by electricity.

In Italy heretofore it has been considered that ring frames were only suitable for warp under 40s and filling under 24s. This range is now being extended, but the warp numbers in Italy usually made on ring frames are about as follows:

Warp 6s, 6½s, and 6¾s, generally made of American cotton, classification middling Liverpool, pure or mixed with flyings, suitable for heavy goods.

Warp 10s, 12s, 14s, and 16s, made of American cotton, fully middling, pure or mixed with lap waste, much employed for towels and rubbing cloths.

Warp 18s, 20s, 22s, and 24s, made of American cotton, good middling, used for material for furnishings, doublures, fancy weaving, etc., and substituted where possible for 40s and 50s, two ply.

Warp 26s to 28s, American cotton, fully good middling, used for weaving light goods, zephyrs, calicoes, etc.

More rarely warp 30s to 34s, American cotton, fully good middling, for gauze, lace handkerchiefs, etc.

The Egyptian Metafifi cotton is generally adopted for warp 17s, 20s, 25½s, 27s, 34s, and 40s, for sewing thread, and for warp 30s and 40s for ply yarns, for weaving light goods, sateens, alpacas, etc.

Finally the yarn spun on ring frames is used for such purposes as cords, strings, braces, and other articles of passementerie. In general, the yarn made on mules with three-fourths the twist of the ring warp is good for ply yarns, but less strong.

The yarn is sold in skeins to be dyed, on cops or quills for weaving, or on cones for economy of transport.

PERMANENT INVESTMENT.

To obtain the relative cost of mule and ring spinning in Italy we will figure on the relative costs of building and operating two spinning sheds, one for 20,000 mule spindles and one for 16,000 ring spindles. The preparatory machinery would be the same for each, supposing we are spinning medium numbers, say 16s to 40s. The costs we will obtain will be strictly the spinning-shed costs, and labor that applies to both card and spinning rooms, such as manager, fireman, etc., will be equally divided between the two. The cost of such a ring-spinning shed would be as follows for 16,000 spindles:

Details of plant.	Cost.
1,620 square meters of land, at 10 lire per square meter	\$3,126.60
Spinning shed, same dimensions, with saw-tooth roof and double windows, at 35 lire per square meter	10,943.10
40 spinning frames, with 400 spindles each, complete in place, at 11.22 lire per spindle	34,647.36
Transmission:	
40 sets intermediate gearing, at 100 lire each	772.00
45 meters of shafting, 100 millimeters diameter, including couplings and supports with self-lubricating boxes	783.23
1 cast-iron main driving pulley	106.15
40 split pulleys, at 60 lire each	463.20
58 meters of heating pipes (heating surface), valves, etc	335.82
Lighting:	
160 incandescent lamps of 110 volts, 16 candlepower, and work connected therewith, circuit breakers, etc., at 13 lire each	401.44
1 dynamo of 80 amperes, at 14.80 lire per ampere	228.51
Moistening, 16 humidifiers of the Drosophore type, ventilators, 1 pump	979.48
Motive power, all included 192 horsepower, at 375 lire	13,896.00
Accessories and fitting-up expenses, at 2.5 lire per spindle	7,720.00
Total.	74,550.00

In the table the horsepower is reckoned at 1 horsepower per 100 spindles, with 7 per cent loss in transmission. Similarly for the mule-spinning room the horsepower is reckoned at 1 horsepower to 120 spindles, but there being more transmission machinery, the total power needed will be 210 horsepower. For the 20,000 mule spindles the area of shed would need to be 2,620 square meters, the dynamo for supplying 240 incandescent lamps would need to be 120 amperes, and the heating arrangements would need to be correspondingly increased. The total cost of the spinning shed for the 20,000 mule spindles would be \$78,970.

Calculating the interest on the capital to be 5 per cent and the sinking fund at 10 per cent makes an expense for these two items of \$11,182 for the ring spinning and \$11,845 for the mule spinning. If put in terms of cost per 1,000 spindles per day, these figures come to \$2.33 for the ring spinning and \$1.97 for the mule spinning.

NUMBER AND COST PER DAY OF OPERATIVES.

As regards the number of operatives for the two spinning rooms, we have the following:

Personnel.	Cost per day.	Personnel.	Cost per day.
Ring spinning, 16,000 spindles:		Mule spinning, 20,000 spindles:	
1 foreman, at 6 lire.....	\$1.16	1 foreman, at 10 lire.....	\$1.93
40 female spinners, at 2.55 lire each.....	19.67	10 spinners, at 6.25 lire each.....	12.06
2 assistants, at 3 lire each.....	1.16	10 picked threaders, at 3.25 lire each.....	6.27
12 doffers, at 1.35 lire each.....	3.13	10 threaders, at 3 lire each.....	5.79
3 apprentices, at 1 lire each.....	.58	10 carriers, at 3 lire each.....	2.90
1 bander, at 2.50 lire.....	.48	1 rope binder, at 3 lire.....	.58
1 baler and polisher, at 2.25 lire.....	.43	1 oiler and polisher, at 3 lire.....	.58
Total ring-spinning room wages.....	26.61	Total mule-spinning room wages.....	30.11
Wages per 1,000 spindles.....	1.67	Wages per 1,000 spindles.....	1.51

The labor given in the table is the strictly spinning-room labor. For all labor that is general for both card and spinning room we will divide by two, to get the amount that should be added to the costs of the spinning. Such labor is as follows:

General personnel.	One-half of pay.	General personnel.	One-half of pay.
1 director (manager), at 10,000 lire a year.....	\$965	1 engineer, at 6.25 lire a day.....	\$181
1 bookkeeper, at 4,000 lire a year.....	386	1 oiler, at 4.5 lire a day.....	130
3 clerks, at 3 lire each a day, 300 working days.....	260	1 waste packer, at 3.25 lire a day.....	94
1 porter, at 1,000 lire a year.....	97	1 roll coverer, at 4 lire a day.....	87
1 night watchman, at 3 lire a night.....	87	Spinning-room proportion of general wages a year.....	
1 fireman, at 5 lire a day.....	145	2,432	

In addition there will be needed, in connection with the ring-spinning room, 1 mechanic, at 6.25 lire a day, and for the mule-spinning room there will be required 3 mechanics, 2 at 6.25 lire and 1 at 5 lire. This will give as costs per thousand spindles per day for general personnel as 58 cents for the ring spinning and 55 cents for the mule spinning.

GENERAL EXPENSES AND SPINNING COSTS PER POUND.

The general expenses of one year's working may be calculated as follows:

Classification.	Ring spinning.	Mule spinning.	Classification.	Ring spinning.	Mule spinning.
Motive power, heating, and lighting, spinning shed only.			Lubricating oils.....	\$560	\$791
Outlay for fittings, etc.....	\$2,070	\$2,258	Transmission belts and ropes.....	540	1,146
Taxes.....	772	965	Cords and bands.....	405	579
Fire insurance on \$82,025, at 2 per cent.....	154	162	Brooms, brushes, etc.....	174	193
Accident insurance, 1 per cent of wages paid.....	102	115	Leather for rolls, etc.....	386	347
			General.....	1,023	965
			Total.....	6,862	8,293

Divided by 300 and then by the number of spindles, this gives per 1,000 spindles per day for ring spinning \$1.43 and mule spinning \$1.38. The general expenses added to cost of general personnel therefore show as \$2.01 for the ring spinning and \$1.93 for the mule spinning.

For the medium numbers from 16s to 40s, whether the operatives be paid by the day or according to work done, if the supervision is well managed and the tariff of wages carefully studied the expenditure will be the same whatever the numbers

spun. Using the figures of cost as deduced we obtain the following table as showing the spinning costs (carding costs not included) per pound on rings and self-acting mules per $10\frac{1}{2}$ -hour day per 1,000 spindles:

AMERICAN COTTON.

Number.	Mule spinning.								Ring spinning.							
	English.	French.	Interest and sink-ing fund.		General expenses.	Total.	Revolutions per minute of spindles.	Production in pounds.	Cost per pound.	Interest and sink-ing fund.	General expenses.	Total.	Revolutions per minute of spindles.	Production in pounds.	Cost per pound.	
			Labor.	General expenses.												
16.....	13.54.	\$1.97	\$1.51	\$1.93	\$5.41	7,690	352	\$0.0153	\$2.33	\$1.67	\$2.01	\$6.01	8,500	588	\$0.0102	
18.....	13.24.	.....	.....	.....	.....	8,150	313	.0173	.....	.....	.....	.....	8,500	500	.0120
20.....	16.94.	.....	.....	.....	.....	8,594	282	.0192	.....	.....	.....	.....	8,500	440	.0137
22.....	18.63.	.....	.....	.....	.....	9,000	256	.0211	.....	.....	.....	.....	8,500	370	.0163
24.....	20.36.	.....	.....	.....	.....	9,405	234	.0231	.....	.....	.....	.....	8,500	328	.0183
26.....	22.01.	.....	.....	.....	.....	9,783	218	.0250	.....	.....	.....	.....	9,000	309	.0194
28.....	23.70.	.....	.....	.....	.....	10,173	201	.0269	.....	.....	.....	.....	9,000	280	.0215
30.....	25.50.	.....	.....	.....	.....	10,272	192	.0282	.....	.....	.....	.....	9,000	249	.0241
32.....	27.20.	.....	.....	.....	.....	10,330	176	.0307	.....	.....	.....	.....	9,000	220	.0273
34.....	28.90.	.....	.....	.....	.....	10,396	163	.0332	.....	.....	.....	.....	9,000	198	.0303
36.....	30.50.	.....	.....	.....	.....	10,472	152	.0356	.....	.....	.....	.....	9,500	181	.0337
40.....	33.88.	.....	.....	.....	.....	10,511	132	.0410	.....	.....	.....	.....	9,500	170	.0354

JUMEL (EGYPTIAN) COTTON.

40.....	33.88.	.....	.....	.....	.....	8,913	119	\$0.0455	.....	.....	.....	.....	8,500	175	\$0.0554
42.....	35.57.	.....	.....	.....	.....	8,825	112	.0483	.....	.....	.....	.....	8,500	161	.0573
44.....	37.27.	.....	.....	.....	.....	8,730	106	.0510	.....	.....	.....	.....	8,500	150	.0596
46.....	38.96.	.....	.....	.....	.....	8,692	99	.0546	.....	.....	.....	.....	8,500	139	.0626
48.....	40.56.	.....	.....	.....	.....	8,658	95	.0570	.....	.....	.....	.....	8,500	130	.0652
50.....	42.35.	.....	.....	.....	.....	8,628	88	.0615	.....	.....	.....	.....	8,500	122	.0685
52.....	44.04.	.....	.....	.....	.....	8,604	84	.0644	.....	.....	.....	.....	8,500	119	.0715
54.....	45.74.	.....	.....	.....	.....	8,582	79	.0685	.....	.....	.....	.....	8,500	112	.0745
56.....	47.93.	.....	.....	.....	.....	8,564	75	.0721	.....	.....	.....	.....	8,500	108	.0774
58.....	49.15.	.....	.....	.....	.....	8,550	71	.0762	.....	.....	.....	.....	8,500	102	.0805
60.....	50.82.	.....	.....	.....	.....	8,540	68	.0795	.....	.....	.....	.....	8,500	96	.0833

This Italian authority from the foregoing table showed that in general the production of the ring spinning was 30 per cent more than that of the mule spinning, but for short-fibered cotton prefers the mule, as in such cases the speed of the ring frames will have to be reduced, as is also the case when much waste is run in.

It will be noticed that in this table he gives the numbers of yarn in both English and French counts. The English system of yarn numbering is in general use in Italy, but some mills still cling to the French system. In the English system the number of 840-yard hanks of yarn contained in a pound is the "number" of the yarn. In the French system the number of 1,000-meter lengths of yarn contained in 500 grams (about 1.102 pounds) fixes the number. The 1,000-meter length of yarn is called a "matassa." As the proportion of the length of the matassa to the skein is not in proportion to the weight of 500 grams to 1 pound, therefore for the same yarn the French numbers will be lower than the English, and No. 1 English count will equal No. 0.847 French count, No. 10 English count will equal No. 8.47 French count, etc.

MILL LABOR.

CONDITIONS AND WAGES.

GRADUAL INCREASE IN PAY SCALE AND SCARCITY OF OPERATIVES— EFFECTS OF CHANGING CONDITIONS.

The Italian cotton manufacturer has heretofore had quite an advantage over most of his competitors in being able to obtain abundant cheap labor, and this labor being, if not highly skilled, at least sober, industrious, and fairly intelligent. There are signs that he is gradually losing this advantage, and that labor is beginning to get scarcer and higher priced. In the last five years there have been many new industries started in northern Italy and the old ones have greatly expanded, while at the same time the increasing prosperity of the people has made farming more profitable.

Labor can not yet be said to be scarce in Italy in the sense that it is in some other parts of the world, for instance in our Southern States, but the laborer is beginning to find himself to be of importance, and that if he strikes for higher wages he can not be readily replaced, as of old. Just at present the great expansion of the silk industry in northern Italy is being checked for want of sufficient skilled help, and both the wool and cotton mills are beginning to import help from southern Italy, and to try to get back labor from Germany and Austria. A large number of Italians work in German and Austrian factories, especially those adjacent to the border; for, as a rule, the wages have been slightly higher there than in Italy, but if wages keep advancing at their present rate in Italy a portion of this will be reclaimed.

Taxes have been so high in Italy and remuneration so low that hundreds of thousands of Italians have sought better opportunities abroad, mainly in the United States and Argentina, and their going has had quite an influence on the home labor market. The prosperity of Italy is on the increase, and the workmen, finding themselves in a stronger position than ever before, are demanding a corresponding increase in wages, and by means of strikes, in most part engineered by various labor unions, they are gradually reducing the hours of labor and raising the standard of pay.

HOURS OF LABOR—WOMEN AND CHILDREN EMPLOYEES.

Formerly the mills worked 12 hours or over, and in some cases ran steadily in flush periods up to 17 hours a day. This was done by putting the operatives on a piecework system, as far as possible. When he works by the day the Italian operative wishes to leave before the whistle blows, but if he works by the piece he will work as many hours as it is possible for him to stand. Even now manufacturers often avail themselves of this fact to increase their production when orders are to be rushed. In the remoter country districts a few mills still work 12 hours, but the tendency everywhere is for a shorter workday. Hand-loom workers at home still work

very long days, and this is one reason why they are able to survive the competition of the power loom. The present hours of labor in Italian cotton mills average probably 10 $\frac{1}{2}$. Where two shifts are worked the hours have in some cases been reduced to 9, and generally for night work the lesser hours are run, but the new law has stopped nearly all night work.

There is no law regulating the hours of labor per day or per week, but there is a law forbidding women and children to work at night. This law was passed in 1902, to take effect June 30, 1907, the five-year interval being allowed the mill men in which to double their plants. This was made necessary by the fact that the great bulk of Italian mill labor consists of women and children. The Government figures for 1903 showed the operatives in cotton mills to be 138,880, of which 34,335, or 25 per cent, were men; 82,056, or 59 per cent, were women; 4,739, or 3 per cent, were boys; and 17,750, or 13 per cent, were girls. These figures show that the women and children comprise three-fourths of the total employees.

LUNCH HOURS, PAYMENT OF WAGES, AND TIME KEEPING.

In regard to the arrangement of the working hours, there is always a good interval allowed in the middle of the day for lunch. The Italian does not believe in the American quick lunch, and likes to take plenty of time over his meal, sip his wine, and converse. Usually the mid-day rest is 1 $\frac{1}{2}$ hours, never under 1 hour, and in a great number of mills it is a full 2 hours. For the average 10 $\frac{1}{2}$ -hour day the work is usually started at 7 o'clock in winter and at 6.30 in summer, and run until 12 o'clock; resumed at 1.30 o'clock and continued to 6.30 in summer and 7 in winter. In many places the employees prefer not starting until 7.30 in the morning. In a few mills they start as late as 8 o'clock and run that much later at night to make up for it.

While the hours of starting and stopping are officially as given, there is really a difference of 10 minutes. The Italian operatives will not run their looms or other machines up to the time the whistle blows, but some 10 minutes before will start getting ready to leave, washing up, etc., and as the managers have found it impossible to change this they now require, in most mills, that employees shall be at the mill 10 minutes before the starting hour, so that they will get their wraps off and be ready to start their machines promptly at the sound of the whistle, and a bell is rung 10 minutes before the stopping whistle, so they can get ready to leave. This really reduces a 10 $\frac{1}{2}$ -hour working day to 10 hours and 10 minutes. There is no stop made on Saturday afternoon and the mills work the full time, as on other days. In most places in Italy shops are open half the day Sunday, so the mills see no reason to stop on Saturday for the employees to do their shopping.

Most mills pay off either every Saturday night or every second Saturday night. Some mills use pay envelopes, but in other mills each employee keeps a small pay book in which, when the clerk hands him his wages in cash, he enters the amount and signs his name. He keeps the book, but his signature is evidence that he has received the money. Usually one to two weeks notice is required from employees on leaving a mill and either one-half to one week's wages are kept back, or else a fixed amount, 5 francs (96.5 cents) at some mills and 10 francs (\$1.93) at others.

Some of the mills, especially the large ones, have at the entrance a large wall case with numbered brass checks suspended from hooks, and each workman, as he goes in, takes his tag with him, and replaces it when he leaves. The number of tags remaining on the board show the operatives absent. Inside the mill the operatives go by their numbers, and their wages are paid according to number, not name.

BASIS OF MILL WAGES.

It will be noticed that the wages seem to be all stated by the day. The custom in a large number of the mills is to fix a day wage for a certain amount of work, and then pay extra for anything over this. Thus at one mill I found most of the looms running on flannelets for the Turkish trade. These goods were made 55 inches wide on the loom and afterwards split in two. The looms were making 150 picks per minute and putting in 32 picks to the inch. Each employee ran two looms and was paid 3 lire (57.9 cents) a day, for which she was required to get a cut from each loom. The cuts were 50 meters (54.5 yards) each, so this was figuring on about 70 per cent production as the day's run was set at 10½ hours, but was really only 10½. Anything over a cut was paid for extra in a slightly increased ratio. On fly frames and other machines the same method is pursued. In some mills I found that the day's wages for all persons in the spinning room were based on a certain production from the room, and at the end of the week their wages per day were over or under the set day wage according to the total production obtained.

In southern Italy the wages are lower than in northern Italy, and might be given as 1½ to 2 lire (29.1 to 38.6 cents) for the first, as against 2 to 3 lire (38.6 to 58 cents) for the latter, but wages vary so, even between mills on the same goods in the same locality, that this is very general. The country mills pay much less than the city mills, but as a rule the help is less efficient.

The following is a daily wage table from a southern mill, as published by the Government; hours of work 11; days worked in a year about 300:

Workers.	1894.	1898.	1903.
Carding: Men.....	Cents. 34.7	Cents. 44.2	Cents. 48.3
Fly frame: Women.....	15.4	21.2	27.0
Spinning:			
Men.....	34.7	51.4	56.0
Girls:.....	13.5-15.4	13.5-23.3	17.4-25.1
Cop winding: Women and girls.....	8.7-21.2	17.4-25.1	15.4-25.1
Twisters:			
Men.....	34.7	53.1	54.0
Women.....	15.4	21.2	21.2
Spoilers: Women and girls.....	9.7-23.2	13.5-27.0	13.5-27.0

The average daily wages paid in a country mill near Milan have gradually increased from 30.9 cents for men and 11.6 cents for women spinners in 1871 to 47.3 cents for men and 36.1 cents for women in 1907, while for weaving the wages have increased from 15.4 cents to 39.6 cents in the same period. The hours of labor have also been decreased from 12 to 10½ per day. The number of days worked per year is about 290.

MANNER OF LIVING OF THE MILL WORKERS.

Very few Italian mills have tenement houses or mill cottages. A good many supply houses for the overseers, but the employees lodge themselves. In the country a large number own their own houses, and frequently walk a good distance to the mill every day. In the cities the workers usually lodge in big crowded flats near the mill. The average family will crowd into two rooms, and will pay from 6 to 20 francs (\$1.16 to \$3.86) rent a month. A few mills have built special tenement houses where girls, who come from a distance, can board and be under the charge of matrons appointed by the mill, but this is not general; in most cases they stay with relatives. A mill at Turin, one of the few that has its own mill cottages, has the cottages built in square, two-story style, with two rooms on each floor, and charges 12 francs (\$2.32) a month for each floor. A manager gave as reasons for the mills not having houses for their operatives, that so many were located in the country near the operatives' homes, and also that not all of the operatives were cleanly, and that when living in houses not belonging to them they were very careless of the property.

The average Italian operative gets low wages and lives cheaply. Spaghetti and wine seem to be his main dependence for a meal. The average country operative does not have a great variety of food and, in Piedmont and Lombardy, for instance, the regular menu is as follows: Breakfast—bread and milk mush; dinner—spaghetti, potatoes, and milk mixed into a porridge, polenta (corn-meal mush), and wine; supper—cold spaghetti porridge, cold polenta, cheese, and some wine.

Dinner in the middle of the day is the heartiest meal, and enough spaghetti porridge and polenta are then made up to last for both dinner and supper, being eaten cold for the latter meal. Chestnuts are also a staple article of food, and radishes, with olive oil and other vegetables, when procurable. In the towns the operatives as a rule get higher wages, and have a somewhat more varied diet, including meat. It will be noticed that wine is always taken at the midday meal, and usually a smaller quantity at supper. This is of course not an intoxicant, but a regular part of the diet. In fact I was informed by a physician that in Piedmont, where there is a peculiar penetrating dampness in the atmosphere in the fall, wine was almost a necessity to keep in good health. Wine is in the reach of all, even of the poorest, for even the better class of table wine, of the kinds used by the operatives, only costs 40 centimes a liter (7.7 cents per 1.05 quarts), and less if bought in bulk.

EFFICIENCY OF THE OPERATIVES.

The Italian operative is less efficient than the English or American. On some lines this has the effect of making the labor cost higher than in England, but on the coarser goods the labor cost is less than in England. A larger portion of the operatives are women, which partly accounts for the smaller quantity of work turned out, and they come of a people who have been engaged in agricultural work, and who are comparatively new to manufacturing of any kind. The managers say that the operatives are yearly becoming more efficient and skillful. The Italian is dexterous with his hands, is fairly efficient, and seems to adapt himself to new work readily. Some of the

work done by Italian designers, even for medium-grade goods, is very artistic. At first all the superintendents, here called "directors," were imported from Switzerland, Germany, or England to operate the mills, but these are steadily being replaced by Italians, and few of the former now remain.

The wages paid in the various mills vary greatly and with the continued strikes they are changing continually. The condition of the labor in the various mills, the hours worked, why strikes are inaugurated and how settled, can not be better shown than by the notices published in regard to these strikes.

CAUSES AND RESULTS OF STRIKES.

The following notices are selected from among the dozens of official ones published each month in the Bulletin of the Cotton Industrial Association:

Villanova sul Clisi (Brescia).—The limited liability company, the Cotonificio Bresciano Ottolini, employs the following operatives: 19 men as "batteurs" (picker-room hands) at 39 cents a day; 24 at the cards at 39 cents a day; 57 at the "self-actings" (mules) at 68 cents, and 10 boys at 21 cents a day; 29 women at the cop winders at 32 cents and 2 girls at 27 cents; 12 adults at the twistlers at 21 cents; 6 carriers at 46 cents a day; all these for 11 hours. There are also 10 assistants, part for 11 and part for 9 hours, at 77 cents each; 9 men at the ring frames at 37 cents, 1 boy at 17 cents, 110 women at 28 cents, and 122 girls at 22 cents; 5 men at the fly frames at 42 cents and 210 women at 37 cents for 9 hours. In the reel room there are 6 men at 44 cents, 37 women at 33 cents, and 1 girl at 27 cents; for bunching, and packing the skeins 4 men at 37 cents, 20 women at 33 cents, 2 girls at 23 cents; also 18 men in the machine shop at 52 cents, all for 11 hours. The force, for technical reasons, is divided into two sections, one for the old spinning department and one for the new. In the old spinning department the hands are divided into two shifts of 9 hours each, while in the new only one shift is used, which works 11 hours. The operatives in this last section, in order to obtain equality with the others, initiated a strike on July 12, in which 44 men, 97 women, and 65 girls took part. Through the intervention of the secretary of the local labor union the workmen desisted from their strike and returned to their work on July 13, without any concessions being granted. It is to be noted though that when the reduction of the hours of labor of the first section took place from 11 to 9 hours, the tariff for excess work there was increased from 12 to 15 per cent, and in the second section it was also increased from 7 to 8 per cent.

Leghorn.—The firm Cantoni-Coats for the manufacture of sewing thread gives work to 250 men at 58 cents and to 950 women at 23 cents per 11-hour day. The firm wishing to introduce in the several branches "lustraggio and tavelle" (glazing and roughing), a system of labor that meant a reduction of wages, the whole body of operatives on July 8 initiated a strike, asking a general increase of wages. The labor union of Lucca directed the strike, the president of the local chamber of commerce intervened, and the firm granted an increase of 5.8 cents per day during apprenticeship and of 2.9 cents for those on the roughening work, and besides made a formal promise for a general increase of the rate of remuneration. On July 29 work was resumed. During the strike \$4,053 was expended in assistance to the strikers.

Clavesana (Cuneo).—The Lombardy Yarn Manufacturing and Printing Company employs 407 hands, of which 7 are mechanics at 77 cents a day; 83 machine tenders, carriers, and card and picker room hands at 40 cents a day; 12 boys, 228 women, and 70 girls on the draw frames, fly frames, ring frames, and other work at wages of 24 cents, 36 cents, and 22 cents, respectively; 6 assistants at 96.5 cents each, and a mason at 58 cents. The hours of work were 11. Demanding an increase in the tariff of remuneration, a strike was inaugurated July 8, and in acceding to their demands the firm made the hours of labor 10 and raised the wages of the 83 picker-room hands, carders, carriers, and machine tenders from 40 to 44 cents; of the 12 boys employed on the draw frames, rings, and fly frames from 24 to 26 cents; of the 228 women from 36 cents to 41 cents; and of the 70 girls from 22 cents to 24 cents a day. Work was resumed on July 15.

Scanzo (Bergamo).—On March 9 there was initiated a strike at the weaving plant of Carlo Caprotti by 3 men and 198 women weavers making 31 cents a day, 46 girls running cop winders at 16 cents a day, 50 spoolers at 21 cents a day, 12 warpers at 29 cents a day,

and 16 drawing-in hands at 35 cents a day. The weavers demanded that the fortnightly minimum requirements be reduced by one piece of cloth, the cop winders, spoolers, and warpers asked an increase in wages. Fourteen men remained employed until the 14th at 39 cents a day, and 20 boys at 19 cents a day. The strikers, notwithstanding they were not organized, were assisted by the Catholic Society of Labor of Bergamo. They obtained a reduction of the minimum required and also a concession that loom stoppage not by their fault be not counted. The increase of wages will be settled by an arbitrator. The work began again on March 16.

Volciano, near Roe.—In the cotton manufacturing establishment of Valle Sabbia Hefti & Co. there are employed 596 hands, of whom 168 are men at 42 cents, and 326 women at 35 cents a day in the spinning department, and 55 men at 42 cents and 47 women at 33 cents in the weaving department. On July 12, 382 of the above operatives—150 men and 232 women—raised a strike, sending representatives to the owner and asking 9 hours per day instead of 11, and an increase of 20 per cent on their wages. The firm did not answer, and on July 27 the operatives presented, through the secretary of the Brescia Labor Union, the following memoranda: A reduction of the hours of labor for all categories of workers from 11 to 10; an increase of "cottimi" (remuneration for production over that required) in proportion; the same statu quo for the workmen paid by the day; a general increase of wages in proportion to be agreed on; the approval of the tariff of wages by the Chamber of Commerce and by the Chamber of Labor; a bettering of the hygienic conditions of the places for labor; an assurance that no measures will be taken against the strikers.

On July 30 a discussion took place between the workmen's commission and the firm, and it was agreed, first, that on September 9 the mills will employ two shifts at 9 hours of labor for each in the spinning department, and not alter the wages in force; for the weaving department the hours of labor are to be reduced to 10½, delaying a half hour entering in the morning and no variation to be made in wages; second, the modification of the hours of labor for the weaving department will start on the same day that the two shifts are organized for the spinning department. During the strike the work was abandoned by all hands and was resumed August 1, except by 7 workmen who discharged themselves during the strike and were not afterwards taken back by the firm. During this time several workmen became subscribers to the Brescia Labor Union; the manufacturers belong to the Cotton Industrial League at Milan. For assistance to the strikers \$36.67 was spent, which was raised through subscription; several innkeepers of the place, favoring the strike, credited the workmen for food, in order that they might strike.

Turin.—The Cotonificio Subalpino employs 143 hands, of which 56 are men, 3 boys, 78 women, and 6 girls. The work is thus divided: 10 men in the card room at 44 cents a day and 32 women at 33 cents; in the spinning room 30 men at 44 cents, 3 boys at 29 cents, 19 women at 35 cents, and 6 girls at 28 cents; on the twistors 8 women at 31 cents; in the reel room 6 women at 33 cents; at various day work 15 men at 48 cents and 14 women at 31 cents. The hours of work for the men and boys are 11 and for the women and girls 10 per day. On June 25 a strike was caused by the failure of the mill to carry out exactly the provisions of the new law in regard to night work of women and girls. The League of Textile Workers assisted the strike, and on June 27 the representatives of the operatives obtained the abolition of night work for the women and girls. For the men the hours were arranged as follows: 10 hours nominally, 9 hours effective. The women were divided into two shifts, the first working from 5 a. m. to 2 p. m., the second from 2 to 9 p. m. The women in this establishment are employed on the speeders, ring frames, and reels. Work was totally suspended three days. This question was settled by the assistance of the treasurer, the secretary of the League of Textile Workers, and of that of the Federation of Textile Workers of Milan.

Castelleone (Cremona).—The spinning mill of Rotondi & Co. employs about 20 men at wages of 19 to 48 cents and about 200 women at 4 to 29 cents per day. The men worked 11 hours and the women 10½. All belong to the League of Catholic Workmen. They demanded the following: (1) That the deposit required of each operative be reduced to a maximum of 96.5 cents, to be returned when he quits the mill after 8 days' previous notice; (2) a less harsh application of fines, always in the presence of the operative and with the approval of the assistant, and that none be levied where absent through sickness; (3) assurance of a minimum of salary of 24.1 cents, except where one does not merit any more; (4) hours of work to be 9½ and no night work. The strike started July 25. On the local syndic intervening to settle the strike the firm was allowed a month in which to arrange the hours of labor and to concede the demands and the maximum of the deposit was raised to \$1.93. The strikers resumed work July 27.

COTTON GOODS EXPORTS.

STEADY GROWTH OF THE INDUSTRY.

EXTENT OF FOREIGN TRADE—COMPETITION WITH THE UNITED STATES IN VARIOUS COUNTRIES.

A study of the export business of Italy, in this line, is of value just at present, for not only does Italy ship good-sized orders to the Philippines, but her goods come into competition with those from the United States at other points, especially in South America, the Red Sea ports, and Turkey. In the latter two places the cheaper Italian sheeting has been substituted for the American, and, in fact, in Turkey the American sheeting has been almost driven off the market.

Italy imposes an import duty on raw cotton of 3 lire per quintal (57.9 cents per 220.4 pounds) and a duty on cotton batting of 9 lire (\$1.74) per quintal, but this is more than returned in the shape of a rebate on cotton manufactured for export, yarns receiving back 4 lire (77.2 cents) and textiles 4.5 lire (86.9 cents) per quintal. In 1905, for instance, there were exported 101,466 quintals of yarn and 234,096 quintals of textiles; therefore the cotton manufacturers were refunded 1,459,296 lire (\$281,644).

The following table illustrates very clearly the progress of the Italian cotton industry, showing the increasing consumption of cotton, and the increasing exports and decreasing imports of cotton yarn and cotton cloth. The figures are average yearly figures for five-year periods up to 1900, when yearly figures are given:

Year.	Raw cotton (net im- ports).	Yarn.		Cloth.	
		Imports.	Exports.	Imports.	Exports.
1871-1875.....	37,188,533	22,122,650	45,182	25,742,500	432,425
1876-1880.....	53,662,331	21,029,466	379,308	23,068,827	830,908
1881-1885.....	101,525,056	20,592,854	220,620	28,278,642	820,247
1886-1890.....	145,011,298	9,274,212	682,358	22,736,884	1,429,514
1891-1895.....	194,979,284	3,419,065	1,774,220	11,406,582	6,580,703
1896-1900.....	262,384,878	1,867,229	11,991,523	4,296,037	20,876,590
1901.....	287,899,293	1,801,990	21,103,520	3,575,990	32,365,300
1902.....	311,444,816	1,832,846	19,414,816	4,016,129	30,262,022
1903.....	324,573,162	1,977,870	20,280,767	4,006,872	38,110,688
1904.....	324,931,312	2,065,589	20,787,246	5,957,192	54,149,635
1905.....	345,223,320	1,820,063	22,550,446	6,607,151	54,869,241
1906.....	384,410,660	1,821,724	22,877,300	8,038,208	61,744,840
1907 (six months).....	303,481,102	1,006,567	9,761,516	5,177,857	27,292,573

The net import of cotton given in the first column of the table is the total cotton imported and entered for consumption, not counting the re-exports, which go mostly to neighboring sections of Germany, Austria, France, and Switzerland. With the exception of a few hundred bales grown in southern Italy, there is no cotton raised

in the Kingdom, and the total raw material for the cotton manufacturing is imported. The cotton import figures, the net amount as given above, is therefore the exact measure of the consumption of the Italian mills, and show that in 1906 there was consumed the equivalent of 768,821 bales of 500 pounds, and that the consumption has increased steadily for the last thirty years or more.

COST OF RAW COTTON TO MANUFACTURERS.

The bulk of the cotton so imported comes from the United States, but this is mixed with 10 to 30 per cent of Indian cotton, so that the cost is much lowered. For instance, in 1905, 74.52 per cent of the total was American, 4.29 per cent Egyptian, and 21.19 per cent Indian and Levantine. Taking their average values per quintal (220.46 pounds) we find the average value per quintal of the whole to be as follows:

Cotton.	Average yearly value.	Percentage of total imports.	Average value of the whole.
American.....	\$21.81	74.52	\$16.25
Egyptian.....	34.93	4.29	1.50
Indian, etc.....	18.33	21.19	3.88
Total.....	100.00		21.63

The average value of the American, Egyptian, and Indian cotton was 9.89, 15.85, and 8.32 cents a pound, respectively, and the average works out to 9.81 cents a pound. Leaving out the small amount of Egyptian, which is mostly used separately for finer work, when the American and the Indian is used together the proportion is 25 per cent Indian to 75 per cent American, and the average value is reduced to 9.5 cents. Larger proportions are frequently used, especially for sheetings, and this fact, coupled with cheaper labor and heavier sizing, enables them to produce an article that can undersell the American in markets where cheapness and not quality is the main consideration.

The average value of all the cotton imported into Italy works out at 112 lire per quintal, or 9.81 cents a pound. The proportions of each varies each year, but worked out in similar manner the average value of the cotton imported into Italy for the ten years before this were as follows:

Year.	Lire per quintal.	Cents per pound.	Year.	Lire per quintal.	Cents per pound.
1896.....	100	8.76	1901.....	117	10.25
1897.....	92	8.05	1902.....	110	9.63
1898.....	84	7.35	1903.....	120	10.51
1899.....	82 $\frac{1}{2}$	7.22	1904.....	150	13.13
1900.....	100	8.76	1905.....	112	9.81

It will be noticed that 1904 was the record year as regards price of raw material, and this had quite a bad effect on the export trade. The yarn exports were immediately checked, but cloth being sold ahead, its effect on the export of that article did not show up adversely until the next year. When cotton dropped back to normal, however, the mills made good profits again, and the export business quickly outstripped its former figures.

PRICES OF YARN IN MILAN.

The following table, showing the average prices per pound of the ordinary numbers quoted in the Milan market reports, also shows the high figures reached during 1904 on yarn:

Description.	1900.	1901.	1902.	1903.	1904.	1905.
Single yarns:	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
Warp and filling, India I, 12s.	14.89	12.43	13.22	13.84	15.68	13.75
Warp and filling, India II, 12s.	14.54	12.22	12.43	13.49	14.80	12.87
Warp, America I, 16s.	17.34	15.06	15.24	16.64	19.13	15.85
Warp, America I, 24s.	18.65	16.46	16.55	17.95	20.25	17.08
Filling and medium twist, America II, 24s.	19.27	16.33	17.25	17.69	20.23	16.81
Warp, America I, 30s.	19.53	17.25	17.25	18.56	21.28	17.86
Medium twist, America II, 30s.	19.27	17.12	17.12	18.30	21.02	17.60
Warp, America I, 38s.	21.89	19.35	19.44	21.02	19.12	20.14
Filling, America I, 44s.	21.37	19.09	19.18	20.67	23.07	20.58
Doubled yarns:						
India I, 12s, 2-ply.	16.83	14.46	15.08	15.63	17.46	15.68
America II, 24s, 2-ply.	20.24	18.10	18.58	19.95	22.15	18.88
America I, 32s, 2-ply.	21.99	19.75	20.14	21.21	23.39	20.06
America I, 40s, 2-ply.	23.74	21.21	21.99	22.83	25.19	21.99

All yarns for export are put up in packages of 4.5 kilos each, which is the same as the English package of 10 pounds. Usually 40 of these bundles go to a bale, but this varies.

The imports of yarn into Italy show a steady decrease, and practically the only yarns imported are special numbers or high counts. Colored ply yarns form the largest single item in this list. The bulk of the yarn imported comes from Great Britain and Germany. The exports of yarn show a correspondingly steady increase, and Italy's chief customer, Turkey, prefers to buy it gray and dye locally in small lots as needed. Besides Turkey the other countries that buy Italian yarns are mainly Argentina, Egypt, Austria, and the Balkan States.

IMPORTS AND EXPORTS OF YARNS AND CLOTHS.

The decrease in yarn imports, except for colored ply yarns, and the decrease in cloth imports, except of fine goods, also the steady increase in yarn exports, especially gray yarns, and of cloth exports, especially colored goods, is well shown by the following table, in which are given the main classes of goods imported and exported for 1895, 1900, and 1905:

Description.	Imports.			Exports.		
	1895.	1900.	1905.	1895.	1900.	1905.
Single yarns:						
Gray.	970,862	275,500	230,538	435,951	7,033,405	14,647,123
Bleached.	51,794	45,843	44,040	253,901	750,242	1,328,792
Dyed.	55,982	60,390	33,721	592,435	2,031,727	1,959,356
Ply yarns:						
Gray.	730,626	196,597	173,896	71,410	981,221	2,112,534
Bleached.	144,362	57,524	54,218	176,540	344,706	511,548
Dyed.	243,983	401,348	429,560	828,043	1,774,881	1,553,600
Plain goods:						
Gray.	2,282,462	333,686	316,715	149,431	1,222,118	6,615,526
Bleached.	1,308,294	627,258	599,929	390,549	854,932	1,491,667
Colored or dyed.	1,189,278	789,032	723,573	9,056,897	21,049,522	36,851,762
Printed.	3,609,932	1,058,140	867,715	771,620	2,861,453	4,770,778
Figured textiles and damasks.	577,228	266,684	702,194	575,085	1,236,664	859,119

Recently, with the increase of mercerization works, they have begun shipping good amounts of mercerized yarn to Damascus and other points in Turkey. The shipments of sewing thread are also

increasing in the lower numbers. The bulk of the Italian yarn exports are, as stated, gray yarns, and they are mostly the medium numbers. The quality, and therefore the price, is above the Indian but under the English yarns of similar counts.

In cloth imports, as in the yarn imports, there was a steady decrease for a long period, but since 1901 there has been a slight increase in the amount of fine cloth imported. This seems to be due to the fact that the increased wealth of Italy enables the people to buy many luxuries, hitherto forbidden, and this tendency has shown itself, to a certain extent, in the purchase of finer goods, which the Italian cotton manufacturers, while controlling the home market on general lines, have not yet found a demand for in sufficient quantities to be profitable. On the other hand the exports of cotton cloths have made rapid progress, and Italy competes abroad in many markets with Great Britain, as well as other countries.

DETAILS SHOWING VALUE OF TRADE.

The following table shows more in detail the cotton and cotton manufactures imported and exported in 1906, giving not only the weight and value of the yarn and piece goods, but also the sewing thread, ribbons, knit goods, made-up goods, and all other manufactures of cotton:

Description.	Imports.		Exports.	
	Pounds.	Value.	Pounds.	Value.
Cotton in bales.....	403, 374, 578	\$39, 561, 473	18, 708, 300	\$983, 107
Cotton batting.....	29, 534	3, 621	2, 865	17, 550
Total cotton.....	403, 404, 292	39, 565, 094	18, 711, 165	1, 000, 657
Cotton manufactures:				
Yarn—				
Gray.....	300, 185	67, 820	14, 503, 642	2, 527, 410
Bleached.....	33, 721	8, 209	1, 292, 866	243, 410
Dyed.....	40, 774	11, 033	1, 479, 545	312, 242
Twist—				
Gray.....	147, 448	63, 009	2, 866, 522	754, 745
Bleached.....	48, 929	17, 952	869, 478	175, 880
Dyed.....	421, 625	145, 099	1, 570, 129	365, 732
Sewing thread.....	827, 602	652, 244	295, 116	116, 292
Cotton twine.....	2, 645	556	33, 721	7, 087
Fish nets.....	24, 244	16, 984	5, 289	3, 706
Vigogna yarn.....	440	104		
Total yarn, etc.....		983, 010		4, 506, 504
Plain gray goods.....	555, 408	158, 553	7, 926, 686	1, 756, 135
Plain bleached goods.....	777, 351	260, 032	2, 173, 144	542, 349
Colored or dyed goods.....	1, 095, 388	416, 297	38, 718, 109	10, 713, 884
Printed goods.....	901, 436	422, 313	6, 942, 820	2, 675, 065
Velvets.....	667, 371	462, 988	220	168
Embroideries.....		461, 340	1, 910, 648	50, 194
Embroidered textiles.....	236, 489	381, 592	109, 318	198, 751
Muslin and veiling.....	186, 230	230, 970	40, 333	37, 373
Damasks, etc.....	441, 241	197, 868	839, 724	373, 760
Tulles.....	30, 415	46, 841	16, 089	25, 360
Mercerized goods.....	93, 229	37, 472	610, 508	192, 994
Ribbons.....	198, 801	83, 561	284, 536	119, 598
Tape.....	150, 092	77, 055	546, 151	283, 725
Box cloth.....	121, 220	46, 706	24, 464	9, 426
Brocades.....	4, 188	2, 273		
Buttons.....	220	104		
Antiseptic cloth.....	3, 967	1, 390		
Handkerchiefs and shawls.....	188, 883	84, 038		
Knit goods.....	41, 410	102, 234	530, 723	189, 827
Made-up goods.....	761, 262	236, 799	2, 221, 412	834, 719
Mixtures.....	469, 452	388, 461	724, 014	577, 375
Cotton oil cloth, etc.....	974, 609	275, 069	368	9, 949
Cotton belting.....	2, 424	955		
Total cotton manufactures.....		5, 357, 921		23, 097, 156

COUNTRIES TO WHICH EXPORTS ARE MADE.

The following table shows very clearly the great expansion in Italy's export of manufactures of cotton and the directions in which this flow has found outlet:

Country.	1895.	1900.	1901.	1902.	1903.	1904.
Argentina.....	\$1,873,000	\$4,203,000	\$3,375,000	\$3,427,000	\$5,440,000	\$7,023,000
Turkey in Europe.....	560,000	1,658,000	4,029,000	3,256,000	3,281,000	4,049,000
Turkey in Asia.....	48,000	530,000	440,800	792,000	1,352,000	1,747,000
Egypt.....	132,000	848,000	927,000	885,000	1,099,000	1,582,000
Austria-Hungary.....	48,000	651,000	867,000	306,000	740,000	1,318,000
India.....	16,000	829,000	603,000	299,000	494,000	898,000
Roumania.....	73,000	137,000	277,000	1,028,000	820,000	830,000
Brazil.....	831,000	752,000	571,000	697,000	743,000	583,000
Chile.....	36,000	468,000	245,000	323,000	418,000	481,000
Switzerland.....	141,000	257,000	441,000	214,000	270,000	454,000
Peru.....	56,000	214,000	244,000	179,000	205,000	335,000
United States.....	140,000	125,000	112,000	241,000	354,000	277,000
Germany.....	131,000	240,000	261,000	168,000	178,000	273,000
Greece.....	13,000	84,000	183,000	72,000	182,000	270,000
France.....	135,000	199,000	297,000	258,000	200,000	224,000
Central America.....	36,000	232,000	229,000	136,000	237,000	214,000
Australia.....	1,000	116,000	183,000	186,000	253,000	205,000
Tunis.....	55,000	64,000	140,000	119,000	139,000	161,000
Uruguay.....	230,000	121,000	20,000	266,000	255,000	133,000
Mexico.....	1,000	65,000	61,000	88,000	131,000	112,000
All others.....	155,000	576,000	554,000	670,000	715,000	1,543,000
Total.....	4,711,000	12,369,000	14,259,000	13,610,000	17,506,000	22,712,000

This is a very interesting table and shows a steady growth in the shipment of cotton goods from Italy. It shows that Italy's best markets are found in Argentina, Turkey, Egypt, Austria, India, and Roumania. Colored goods form the bulk of the exports.

CLASSES OF COTTONS EXPORTED.

Gray goods go to the Italian colony of Eritrea in Africa, Turkey, Egypt, and Argentina, in the order named, Cabots being the largest item in this list. Bleached goods go mainly to Argentina and Turkey, but the total export is not very large, and consists mostly of shirtings, piqués, lenos, table linen, etc. Printed goods go to Turkey, Egypt, and Argentina, and consist of shirting prints, printed flannellets, barchent, zephyrs, printed linings, cretonnes, printed handkerchiefs, etc. Colored goods form the bulk of the export, and go in largest quantities to Argentina, Turkey, Egypt, India, and the Balkan States. Quite a variety of goods is included under this heading, especially Oxfords, cotton trouserings, mixtures, flannelets, barchent, sateens, common woven colored goods called Florides and Caroline, linings, reps, cretonnes, mercerized goods, and towels.

It will be noticed that the Italians are working their nearest fields—that is, the countries bordering on the Mediterranean—and South America, then India. In China, Australia, etc., they do little. Argentina, while not near to Italy in miles, through numerous Italian steamship lines is as near to Genoa as Europe is to New York. Argentina is the most important country in South America, and its trade is over one-fourth that of the whole Southern Continent. The Italian emigrants go in larger numbers thereto than to any other country with the exception of the United States, and this has been a great factor in increasing the sale of Italian products in that country. Italy's main exports to Argentina are cotton manufactures, and their sales are increasing steadily. The official statistics of Argentina for

1905 (as published in the *Bulletino* at Milan) show the following as the main cotton manufactures imported from Italy in that year:

Article.	Value.	Article.	Value.
Coarse yarns.....	\$6,337	Made-up goods.....	\$108,244
Ordinary yarns.....	491,491	Lace and tulle.....	85,812
Special weaving yarns.....	20,922	Ribbons.....	60,369
Yarn for wax matches.....	38,530	Table covers and napkins.....	45,094
Sewing thread on spools.....	10,922	Passamesterie.....	21,874
Gray goods.....	211,956	Packing linen.....	19,271
White goods.....	254,706	Cords.....	16,922
Printed goods.....	470,120	Coverlids of waste cotton.....	11,549
Dyed goods.....	3,291,784	Socks.....	10,083
Coverlids.....	242,167	Bags.....	5,260
Towels.....	162,032	Total specified articles.....	5,694,965
Handkerchiefs.....	109,520		

Among other cotton manufactures sold were veils and head shawls, undershirts, padded coverlids, curtains, etc. Colored cloths form the largest proportion of the total, and include especially Oxfords, cheap woven colored goods called Florides and Caroline, cotton trouserings, stripes, diagonals, and similar goods, the bulk of these being cheap goods made of part American and part Indian cotton.

EXPORTS TO TURKEY—CREDIT TERMS AND AGENCIES.

In Turkey the Italians have also been very active, especially in the last few years, and they have driven the American sheetings off the market, and displaced England in some lines. For instance, on cotton flannel, flannelets, barchents, and ordinary sateens the Italians at most places in Turkey have the most of the business. They sell large quantities of mercerized sateens at Smyrna and Beirut. They also do a large business there in linings, in cretonne, and in Oxfords, also a good business in printed cashmeres, printed crepe, Vichy (gingham), damasks, etc.

In Asiatic Turkey flannelets and barchent are used for the long-robed outer garment in winter and prints in summer, the first being supplied by Italy and the latter by England. One of the main specialities of Italy's export trade is printed napped goods, and most of these are split goods that are woven in double widths on the looms and afterwards split down the middle. Barchent is a cloth somewhat similar to flannelet with one hard finished face on the outside and a napped face on the inside. It is preferred in Turkey to the regular flannelet. The bright and fast colors and the appearance of wool in these napped goods attract the native buyer. The Italians have gained the market because their goods are cheaper and, also, because they have studied the native taste, and their designs in this article are better than those of the English or German. The ordinary barchent is 65 to 70 centimeters (25.59 to 27.56 inches) wide and at present is quoted c. i. f. Constantinople at 55 centimes per meter (10.6 cents per 1.09 yards), three months credit, and 5 per cent discount. The Italians have displaced the American sheeting by offering lower-priced Cabots which, in most cases, are made of inferior qualities of cotton.

The long credit offered by the Italians has been of great help to them in gaining such a strong foothold in the Turkish market. They offer longer credits than any other nation on the market, not excepting the Germans. Their system of traveling men is well organized,

and at Smyrna and other points the export houses maintain branch establishments, and by means of these they are enabled to quote in many cases "franco domicile," which is a great inducement.

TRADE WITH OTHER COUNTRIES.

In Egypt the Italians have also gained a strong foothold, with their long credits and by catering to the native requirements. The tastes there change constantly, but as the Italian mills get out new designs every season in great profusion they are easily enabled to hold and increase the trade they have gained.

In India also Italy does a good business in cotton manufactures, which is facilitated by direct steamship connections. For the year ended March 31, 1906 (the Indian fiscal year), I found that Italy supplied India with 1,029,465 pounds of yarn, which was more than the contributions of any other country outside of Great Britain. The yarn thus supplied was mostly medium fine numbers—that is, 30s to 50s—and the majority of it colored yarns. For the same period Italy supplied India with cotton cloths to the value of \$594,452.

Italy's trade with the Philippines is also growing, the exports thereto during the fiscal year 1906 amounting to \$122,829. Their exports to the Philippines include the cotton gauze goods, called betilles, so largely worn as waists by Filipino women, cheap woven colored goods, such as checks and stripes, and some finer goods, such as reps and fine-corded dress goods.

Italy also ships a small quantity of goods to the United States. These include cotton trouserings for the Italian emigrants, and also some fancy goods ornamented with stripes and designs in artificial silk, and some embroidery. The cotton trouserings thus shipped are mostly split goods that are woven 120 centimeters (47.24 inches) wide, and split into about 24-inch widths. They are slightly napped on the wrong side. They are mostly about 14 by 14 ends per quarter inch and are invoiced for 1 to 1.2 francs per meter (19.3 to 23.2 cents per 1.09 yards), less 2 per cent discount.

In an article, published in Italian papers, from the Italian commercial attaché at Washington, he calls the attention of the Italians to American imports of cotton manufactures, especially of lace and embroideries, and says that the cheap labor of Italy, combined with the artistic instinct of the people, should enable them to develop such a business rapidly. Factories of this kind in Italy are few in number at present, and mostly work on overflow orders from Switzerland. The betilles and some other goods shipped from Italy are also made to order for Swiss exporters and shipped direct.

AIDS TO ITALIAN FOREIGN BUSINESS.

Italy's export of cotton goods has been greatly aided by the information published by the Cotton Industrial Association. This association comprises all the larger manufacturers, as well as a good many small ones, and in its monthly paper prints trade items from its correspondents in the various countries and furnishes confidential information direct to the manufacturers. This organization was founded in 1903, which was a year memorable in Italy for an economic crisis, by a group of cotton manufacturers, who were convinced that the industry was nearing a very serious condition and felt the

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